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REVIEW OF NEW BOOKS.

Travels in the Three Great Empires of Austria, Russia, and Turkey. By C. B. Elliott, M.A. F.R.S. &c.; author of "Letters from the North of Europe." 2 vols. 8vo. London, 1838. Bentley.

We have been favoured with an early copy of this valuable addition to our store of "Travels," and hasten to give some notice of the work. To recover his health, or mitigate the severity of complaint, Mr. Elliott set out on his interesting tour; and, notwithstanding ill-health, has shewn himself observant and amusing. The author and his party were the first who succeeded in making the voyage on the Danube, by means chiefly of steamers, as far as within twelve hours' sail of the Black Sea: the entire navigation has since been completed; being a length of upwards of 1600 miles from Vienna to Constantinople. The channel of this noblest of European rivers is not without obstacles in some places, which, in dry seasons, are dangerous; but the spirit of enterprise, which has already done much to improve it, may surmount every difficulty. Canals were formerly reckoned so perfect a means of communication, that an enthusiastic engineer was wont to say, the chief, if not the only use of rivers was, to supply the water for those artificial channels of conveyance. They offer, perhaps, the only means of avoiding the obstructions which cannot be removed from the beds of large navigable streams. Grand schemes of improvement, by cutting new branches from the Danube, are in contemplation; and the labour of thousands of predial serfs will, ere long, excavate canals of sufficient magnitude for the rapidly increasing commerce on this *high sea* of so many countries.

The author's remarks on all he saw throughout the extensive territories he traversed, as regards the appearance of the country, state of society, or political relations, are characterised by much discrimination and accuracy of judgment; and the work is written in a clear, perspicuous, and unostentatious style.

The manners of the people underwent a striking change as they approached the east. The Tartars appear to be a simple, well-meaning race of men; and entertain strangers with much cordiality. The valley of Baidah, in the Crimea, is occupied entirely by Tartars, "to which kind, hospitable, and honest race (says Mr. Elliott), our host belonged. We were shewn into a room, twelve feet by eight, carpeted and surrounded by a divan, or sofa, two feet wide and six inches high, likewise carpeted, and covered with soft cushions. The arched rafters of the ceiling were painted of a black colour, relieved by patches of white lime; and two holes in the wall were furnished with shutters and a grating, but no glass. Opposite one of these was the fireplace or open chimney, into one of whose corners the side-seat of the room extended, constituting the post of honour for a guest, who is compelled to sit, like the Tartars, with his legs crossed under him;—no easy position for a Christian. Round the walls several shining tin plates were ranged, and under them, in double rows, hung white cloths of the size and shape of towels, worked and bordered with gold: these are the riches of the bride, prepared by her own hands before marriage, and varying in costliness and number with the wealth of the party. On one side was suspended a large broad band of leather, ornamented with brass twist; at each end of which was a silver circle, four inches in diameter, furnished with hooks that fastened it round the waist: this is the bridegroom's gift to his bride, and it is often an article of great expense. On a table, a foot square and a foot high, our kind host himself served our meal, placing on it a large tin tray containing some hard-boiled eggs, black rye bread, and a dish called *begmes*, made of the juice of pears. Three men waited on us, but no females made their appearance; for the Tartars are as careful to screen their women from the eye of man, as Moslims in all other parts of the world. The ladies of the house, however, peeped at us occasionally, and we caught a glimpse of one of the peepers. Before and after eating we were presented with a basin and a fringed towel, to wash our hands; and this ablution is considered necessary after sleep, though it be but a siesta of ten minutes. At the hour of repose, a number of mattrasses and carpets were brought out from behind a curtain, and laid on the floor to form our beds, together with cushions adorned with worked pillow-cases. They entirely filled the room, and it was with great difficulty that we avoided soiling them as we moved; a difficulty which the natives obviate by leaving their shoes at the door when they enter a house."

The art of tea-making is better understood among these people than with us; and the following notice may induce some of our fair readers to attempt an improvement in the process:—

"Each country, almost each province, offers peculiarities to the observation of a stranger. Some of these are trifling in themselves, yet not without interest. To this class belongs the habit, here prevalent, of substituting lemon for milk in tea. A slice of the fruit is handed round with each cup, and the excellence of the flavour thus communicated to the beverage attests the good taste of those who adopt the custom. Some credit, however, may be due to the tea itself; for it is certain that in no country in Europe is the article imported in such perfection as in Russia. Conveyed by land through the medium of the large fairs at Ladak and Nijni Novgorod, it retains the virtue of which a sea voyage is said to deprive it; while its grateful savour is much enhanced by the leaves of the *olea fragrans*, with which the Chinese pack it for a land journey."

At Odessa, the author was told of a cure for that dreadful malady, hydrophobia; which, if thoroughly established, is a valuable discovery. The English consul stated that, in Poland, "when a man is bitten by a mad dog, a minute examination, instituted after a day or two, will bring to light a small red swelling, or a collection of minute pustules, under the tongue of the patient, which should be cut out, and strong caustic applied to the part. The consul is acquainted with individuals who have repeatedly witnessed the success of this mode of treatment; and if it appear incredible, it is not more so than what is now asserted with confidence—the effect of cold water on the head as an antidote to prussic acid."

The well-known division of the Russian population into serfs and seigneurs, receives a due share of notice, and his observations appear to be just. The system very much resembles the feudal, and is subject to the evils of that state of society; "but the Russian noble is kind, and excess of anger is not his characteristic: so that his slave fares better than that of the Spaniard or Portuguese. Wretched as is the serf's condition, if estimated by our ideas of happiness, it is less so in reality, because he sees and knows no other. His master is raised too far above him to excite jealousy or ambition; and between them there is no third class; so long as he can satisfy the cravings of nature, he wishes for nothing more: devoid of forethought, he has no anxiety for the future; the stripe inflicted one moment is forgotten the next, and not dreaded for the following; and when old or disabled, he is supported by his lord, and serves to swell the train of his attendants in the city, where each decrepit slave contributes to form a class of idle and dissolute dependents. Still, the case of the Russian peasant is a hard one: the noble is extravagant, and therefore poor; and his steward is ordered to drain all he can out of the serfs, who are consequently oppressed. They either pay a certain *abrok*, or rent, according to their average gains, or else the seigneur is entitled to their labour during three days in the week; these services may be required at any time, and the serf's own crop may be rotting on the ground, while he is working for his master; or his task may be appointed at the distance of a day's journey from his house, and the hours spent on the road are not carried to his credit; or rain may interfere with his threshing, which is always executed in the open air, and thus another day is lost. As an appendage to the soil, he cannot legally be alienated from it; yet the law is often evaded. He may be beaten or imprisoned; but, happily, the master's interest is intimately connected with the slave's, and an abuse of this power is, therefore, checked by selfishness. Nevertheless, isolated cases of extreme cruelty must, and do, occur; and whatever the practice, the principle remains indefensible. No man ought to be trusted with absolute dominion over his fellow-man. There is now a lady in Odessa, under the surveillance of the police, some of whose female servants have been disposed of in a suspicious manner; and there are others, of noble blood and tender sex, who will stand by while their women are beaten, and order more lashes to be inflicted. It is, however, in moral rather than in physical effects that the baneful influence of slavery, and of that degradation which it promotes and perpetuates, is manifested. All that a serf possesses, even his wife, is the property of his lord; and though the conviction that an infringement of the sanctity of wedlock would lead to his own murder, may act, in most cases, as a check on the superior, in the absence of law; yet the mere existence of the power alluded to, however little abused, weakens that sacred tie on which rests the whole fabric of social charities, and

carries with it the evils inseparably connected with the insecurity of the first and strongest bond of society. Nor is this the only channel through which slavery infuses a moral poison into the character of the serf. As his *abrok* will be raised with prosperity, he conceals his gains; and the first lesson he is taught with the dawn of reason is to deceive his master. To effect this he must deceive his fellow-slaves; thus low cunning and a habit of daring falsehood are engendered. Again, self-interest is usually the main spring of exertion; and as the labour of the vassal enriches chiefly his lord, the motive to industry is removed; he is habitually indolent, and determined idleness becomes a leading feature of his character, which nothing but physical compulsion will overcome. Again, he has no reputation to lose; and, unrespected by others, he respects not himself; when, then, he has an opportunity of thieving, what should prevent him? If discovered, he is beaten; but he is accustomed to the lash; and his enjoyment of the stolen goods suffers no diminution from remorse of conscience or violated principle. This is a sad picture, but a true one; and such the original must remain, till liberty and the light of truth dawn on this benighted land."

The policy of Russia is decidedly adverse to liberal feeling and enlightenment: and we learn that the labours of the Bible Society, which were at one time warmly supported in Odessa, are now discouraged by the emperor, as tending to impart principles which are not in accordance with Russian policy. It appears, also, that there is as strict an inspection of books, with a view to prevent the introduction of those which are disapproved of, as in the Papal territories; and our travellers were subjected to considerable annoyance from this circumstance.

"Immediately on our arrival, the portmanteau, containing our books, sealed up at Liova, was delivered in due form at the *chancellerie* of the governor-general. The volumes were thence conveyed to the censor's office; and we were informed that they would be detained till we should quit the country. Two days before sailing for Constantinople, we applied for their restitution, and they were all returned, with the exception of three. These were, 'Voyage en Orient, par Fontainer;' Mrs. Starke's 'Travels in Europe;' and 'Auldjo's Visit to Constantinople.' The first is prohibited in Russia; the other two are not in the list of those permitted; therefore they are forbidden. It seems scarcely credible that so great a power should maintain a system so illiberal. In Petersburg, a chief censor reads, or professes to read, all books published in Europe: what he disapproves are excluded from the country, and what he does not approve, including what he does not read, are not tolerated. Consequently, the whole intellectual appetite of this prodigious empire is gauged by one man's capacity, and the supply limited by his caprice."

The assiduity with which the Russians are augmenting their naval force was particularly observable on the Black Sea; and Mr. Elliott thus speaks:—

"Returning to Sebastopol, we visited the harbour, reputed to be one of the largest and most commodious in the world. Six first-rate men-of-war, and some smaller ones, were reposing on the calm surface of the water, while others were engaged in performing the duties of a quarantine and smuggling cordon. Every thing bespoke action and enterprise. On one side numerous labourers were engaged in levelling the solid rock, the natural fortification of the country; on the other, engineers were erecting artificial defences, of colossal magnitude; and, on a third, the diligent construction of 'wooden walls,' rivalling Britannia's boast, seemed to intimate that this northern inland power, as if anxious to outstep the bounds assigned to her by Providence, had resolved to acquire a dominion over the sea, co-extensive with the vast expanse of her territory on land."

Our author was struck with the repeated proofs of the designs of aggrandisement by Russia, at the expense of Turkey; and several judicious observations are made on this subject, which we must defer, with other interesting extracts, until our next.

[To be continued.]

Legends of Leicester, in the Olden Time. By T. Featherstone, author of "Midsummer Days in Italy." 8vo. pp. 304. 1838. London, Whittaker and Co.; Leicester, Brown.

Mr. Featherstone has already attracted our attention by his little volume of poems, and we still trace the same rich imagery and love of nature throughout the present work, which so distinguished his last. Here, however, he has ventured upon higher grounds, and in several instances attempted to give a dramatic character to his sketches; and has so far succeeded as to leave no doubt but that, with practice, he will accomplish much greater things. What he lacks is a fault common to all young authors, namely, a want of individuality in the characters. His descriptions are always interesting, and there is an earnestness in his narrative which never seems to flag upon the reader; but, like the shifting of a *camera obscura*, always affords some pleasing changes, although the objects may not appear quite so distinct as we would sometimes wish to see them. The work is illustrated by several beautiful wood engravings, presenting views of the most remarkable remains of ancient edifices which are found in, and around, Leicester. Altogether it is a very pleasant volume, and, independently of that interest which it must contain for every one residing in the author's neighbourhood, it is fully deserving of a wider popularity; for although it contains many faults, both of taste and judgment, yet these are more than balanced by its numerous beauties,—beauties which will be looked for in vain amid the many works which have scarcely any other recommendation than that they are coldly correct. We give the following extract, more on account of the suitableness of its length, than as furnishing a sample of the best portion of the volume.

"*The Devil's Dice.*—The Baron Krakenhausen von Sloppenstokken was a punchy, choleric, obtuse-looking personage (most German barons are), and he inherited a lonely square tower, which was in as wretched a state of dilapidation as the fortunes of its owner. The waves of the Rhine washed the base of the building, and the gusts of autumn were murmuring hoarsely among the battlements, as the baron sat one day in a high-backed chair in one of the most desolate-looking rooms, with his hands thrust into the pockets of his breeches, and his legs thrust out, and his eyes fixed in gloomy intentness upon three dice which lay before him on a dusty oaken table. 'If all the fiends of the Blockberg had conspired against me,' said the baron to the dice, 'they could not have wrought me greater ill-luck than ye have done. I have not thrown once but I have lost by ye, and ye were to have brought me endless richess. A curse upon the juggling fiend that cheated me! Ay, there ye stand—the engines of my destruction—to chide at, to revile me for my folly! Why have ye thus conspired against me?' This was a very sage and natural question for the baron to put, for the dice had been the means of reducing him from affluence to beggary. But as he by no means expected to receive an answer to it, except from his own conscience, to which it had been more properly applied, he was proportionately startled to hear a voice exclaim in a shrill tone,—'Wealth is less enviable than poverty: be satisfied!' 'Holla,' cried the baron, looking round, 'what riddle is this?' The dice began to move and roll over and over upon the table, and presently, to the baron's utter astonishment, each of the little cubes became supplied with arms, and legs, and hair, and tiny rolling eyes, and gibbering mouths; and there they stood, confronting the astounded gazer with a grim and ominous squint. 'Now, baron,' said the mysterious trio, 'what have you to say to us?' The baron was not a whit terrified, and, as soon as he had recovered from the surprise natural on such an occasion, he answered boldly—'Ye have conspired to ruin me! ye have lost me my gold, my lands, my houses, and all my fair inheritance.' 'Which you may recover,' said the trio; 'only be counselled.' 'In what?' asked the baron. 'Listen,' said the dice; 'promise to rest when thou hast regained them, and live contentedly.' 'I promise,' said the baron. 'Enough,' said the dice; 'throw, and win back thy losses.' And the trio resolved into their original form. 'This is very odd,' thought the baron, and so it was. * *

"One sunshiny afternoon, therefore, found him sitting alone in his private apartment, from which a glorious view was obtained of the Rhine, and the country beyond. The baron was meditating on his future schemes, which ended in his unlocking a little ebony escritoire and bringing forth the dice. He placed them on the table, and they grew into life as before. 'You are soon dissatisfied,' they said. 'I want gold,' returned the baron. 'Why are you not content?' asked the dice. 'What is that to you?' returned the baron. 'Wealth is less enviable than poverty,' said the dice. 'It's a lie!' thundered the baron. 'Enough,' responded the dice, 'take your own course.' 'I will,' replied the baron, and he grasped the diminutive phantoms in his broad palm, thinking to secure them in that form: but when he opened it again, he found nothing but the ivory cubes with their little jetty eyes. The baron went forth and won extravagantly; but the heaps which he amassed only rendered him more ravenous, and, in a wonderfully short space, he had drained the coffers of every landholder around: thus making a more effectual conquest and raising more inveterate enemies by his play than he could possibly have done with his sword. Indeed, the baron's warlike ideas had altogether evaporated, and he did nothing now but brood over his gold. He had a strong room built far under ground, for the express purpose of securing it in; and here he would sit for hours admiring the yellow ore as it glittered in the light of his lamp. It happened at last, however, that the baron was caught in his own trap. He had been closeted for several hours, when hunger, oft repulsed, became imperative in its demands, and, on going to the door, he found, to his no small dismay, that it was fast, and the key of the spring which secured it—on the outside!"

The result of which is, he perished in the midst of his gold.

Three Expeditions into the Interior of Eastern Australia, with Descriptions of the recently explored Region of Australia Felix, and of the present Colony of New South Wales. By Major T. L. Mitchell, F.G.S. and M.R.G.S. Surveyor-General. 2 vols. 8vo. London, 1838. T. and W. Boone.

THE rapidly increasing importance of our Australian colonies renders these volumes a valuable acquisition. They contain a great variety of particulars respecting a country which yet remains, in most part, a *terra incognita*, and an aboriginal people who are still in a state of nature; and the minute details of the progress of an expedition which explored vast territories never before trodden by white men, are highly interesting. The colony of New South Wales has already extended over a space upwards of four degrees in length, by nearly as many in breadth; but this has become too confined for the increasing population, and the proprietors on the borders of the appropriated land have surmounted the rugged barriers, and sent their herds to pasture on the plains where the opossum and the emu only were formerly to be seen.

In a thinly peopled country, where extensive tracts of barren or inaccessible ground are frequently met with, the formation of roads is of the greatest importance, and much has been done to supply the deficiency by Major Mitchell, who appears eminently qualified for the duties of a surveyor, and has accomplished his exploratory expeditions in a most satisfactory manner, contending successfully against obstacles of no ordinary character. The journey to the north-west does not appear to have produced very important results; but that directed in an opposite point has opened to view a most inviting field for the location of enterprising settlers. Unlike the flat and desolate sandstone plains beyond the sources of the Hunter, where, for months, there is so great a deficiency of moisture that the channels of large rivers are often dried up, the country southward of the Murray—undulating in beautifully wooded hills, intersected by numerous streams and refreshing lagoons, presenting extended tracts of open grassy downs, and, in many places, a deep and rich soil—combines all the requisites for the comfort and advantage of the European settler. So beautiful did this country appear to the travellers as they traversed its flowery meads, sheltered under the foliage of the picturesque trees, or satisfied their thirst at the clear running streams, that it appeared "an earthly paradise," and was appropriately named by the major, "Australia Felix."

The rivers and ponds which are left on the subsidence of extensive inundations, to which the country is liable, abound in fish, particularly a sort of perch, sometimes weighing eighteen pounds or more, which is called cod, from its resemblance, when cooked, to that fish. Of native fruits, however, the woods seem very destitute. Many roots and herbs are eaten by the natives, which, if cultivated and cooked, would be found valuable additions to the table of the colonist. The natives are very dexterous in catching the opossum, which they cut out of the hollow trunks of trees. They ascend by forming notches, about five feet apart, along the tree, using the hands alternately and clinging by their feet. The supply of food is very precarious; and they appear at times to suffer great privation. Nets, formed as neatly as those of Europe, are suspended across rivers and between trees to catch fowl; and the gins or females very effectually drag the streams and ponds by means of a movable dam of long twisted grass, through which not a fish appears to escape.

Another method of fishing is thus described:—"The king stood erect in his bark canoe, while nine young men, with short spears, went up the river, and as many down the river, until, at a signal from him, they all dived into it, and returned towards him, alternately swimming and diving: these divers transfixing the fish under water, and throwing them on the bank. Others on the river brink speared the fish, when thus inclosed, as they appeared among the weeds. In this manner they speared, with astonishing despatch, some enormous cod (Peel's perch); but the largest were struck by the chief from his canoe, with a long barbed spear. The death of the fish, in their practised hands, was almost instantaneous, and caused by merely holding them by the tail, with the gills immersed."

Two natives were at one time discovered fishing in two small canoes; and, "on observing our boats,* they dashed the water up, paddling with their spears; and thus scudding with great rapidity to the right bank, where they left their canoes, and instantly disappeared. These vessels were of the simplest construction—so slight, indeed, that it seemed to us singular enough how a man could float in one, for it was merely a sheet of bark, with a little clay at each end; yet there was a fire besides in each, the weather being then very cold. A native, when in one of these canoes, stands erect, and propels it with the short spear he uses in fishing. With each end of this he strikes the water alternately, on each side of the canoe, and thus glides very rapidly along."

The manner of swimming is nearly upright, and generally back foremost; yet they make way with much skill and velocity.

To discover the nests of bees, which were numerous in the woods, they were accustomed to catch one, and fixing, by means of gum, some light down on it, they followed it until it betrayed its store of sweets.

Like their brethren in Van Dieman's Land, the natives of Australia are, in all probability, doomed, eventually, to extirpation; and the major very feelingly urges their claims to the advantages of civilisation and protection, to which their ingenuity and docility well adapt them. The kangaroo, which disappears wherever cattle or sheep are introduced, is keenly pursued by the stockmen merely for the skin; but, if a native, through hunger, help himself to a stray sheep or calf, he is subjected to legal, or more summary punishment. Major Mitchell thinks it would be an act of justice to prohibit the whites from killing these inoffensive creatures, which are so essential to the existence of the black men; such a prohibition would at the same time be a proof that the strangers wished to act fairly to those whose lands they had appropriated. It is, also, a matter of serious consideration; for, if wild cattle should become numerous, the native population might so increase as to give great annoyance to the colonists. At present, they seem timid and inoffensive.

"My experience (says our author) enables me to speak in the most favourable terms of the aborigines, whose degraded position in the midst of the white population affords no just criterion of their merits. The quickness of apprehension of those in the interior was very extraordinary, for nothing in all the complicated adaptations we carried with us either surprised or puzzled them. They are never awkward; on the contrary, in manners and general intelligence, they appear superior to any class of white rustics that I have seen. Their powers of mimicry seem extraordinary; and their shrewdness shines even through the medium of imperfect language, and renders them, in general, very agreeable companions."

Again—"As I was reconnoitring the ground for a camp, I observed a native on the opposite bank, and without being seen by him, I stood awhile to watch the habits of a savage man 'at home.' His hands were ready to seize, his teeth to eat, any living thing; his step, light and noiseless as that of a shadow, gave no intimation of his approach; his walk suggested the idea of the prowling of a beast of prey. Every little tract or impression left on the earth by the lower animals caught his keen eye; but the trees overhead chiefly engaged his attention. Deep in the hollow heart of some of the upper branches was still hidden, as it seemed, the opossum on which he was to dine. The wind blew cold and keenly through the lofty trees on the river margin, yet that broad brawny savage was entirely naked. Had I been unarmed, I had much rather have met a lion than that sinewy biped; but I was on horseback with pistols in my holsters, a broad river was flowing between us, and I overlooked him from a high bank, and I ventured to disturb his meditations with a loud halloo: he then stood still, looked at me for about a minute, and then retired with that easy, bounding kind of step, which may be termed a running walk, exhibiting an unrestrained facility of movement, apparently incompatible with dress of any kind. It is in bounding lightly, at such a pace, that with the additional aid of the 'wammerah,' the aboriginal native can throw his spear with sufficient force and velocity to kill the emu or kangaroo, even when at their speed."

Of one of their guides we are told, that "his walk was extremely light and graceful; his shoulders were neatly knit, and the flowing luxuriance of his locks was restrained by a bit of half-inch cord, the two ends hanging, like a double queue, half way down his back. He was followed by his gin (wife) and a child, which, although it was old enough to walk, she generally carried on her back."

In crossing a mountainous ridge, a tribe was found suffering greatly from virulent smallpox. The wretched creatures were extended on their backs, beside a stream, and under the shade of the mimosa tree. They had come from a distance, as if to avoid the calamity, and greedily partook of some medicine that was offered to them. Their depressed condition and utter ignorance of the country, so unusual among roaming hordes, excited the sympathy of the party.

There were many salt-water lakes, and it was singular to find certain parts of the river Darling brinish, while the lower stream was fresh. However hot, muddy, or brackish, the natives obtain cool and clear water from the ponds, by scratching a hole in the sand on the margin, through which it rises nicely filtered; and a very agreeable flavour is often imparted to it by a tuft of a particular sort of grass, through which it is sucked.

Snakes form no inconsiderable portion of the food of the natives, and the fat was found an agreeable adjunct to the meals of the major's party. "The staff of life" among the natives is formed from a species of rush, the root of which is taken up in lengths of about eight or ten inches; and the outer rind being peeled off, it is

* They were provided with two portable boats, ingeniously formed of a frame-work, on which a strong tarred canvass was spread.

dried, and twisted to loosen the fibres, when a quantity of gluten is extracted, which is said to be lighter and sweeter than wheat, and is a ready and very wholesome food. This is termed Balyan.

The frequency of conflagrations is remarkable. The long dry grass takes fire like tinder; and the burning of the woods has often been sufficient to illuminate their camp at night. Some are accidental, but some were no doubt kindled by hostile tribes. The natives seldom move about without fire-sticks, which they carry burning in their hands, ready to clear the dense scrubs, or cook the game which may be caught.

Hot as the weather appears at times to have been, there was no thunder for four months and a half, and scarcely any rain to moisten the parched and arid plains of the north-west.

[To be continued.]

An Attempt to Develope the Law of Storms by Means of Facts, arranged according to Place and Time; and hence to Point out a Cause for the Variable Winds, with the View to Practical Use in Navigation: illustrated by Charts and Woodcuts. By Lieut.-Colonel W. Reid, C.B. of the Royal Engineers. 8vo. pp. 436. London, 1838. Weale.

How overwhelming to the mind of man is the vastness of the power, in its terrible manifestations, of Him whose word the storms obey! How encouraging the faculty, the permission, to explore and to understand the laws of its action! How elevating, and yet how humbling the knowledge, of the simplicity of those laws, of the order of disorder! But who, that has ever been exposed to the fury of the storm, that has ever witnessed the sweeping devastation of the tempest, the violence, the utter confusion, the breaking-up of the elements, the dismemberment of nature in the astounding jumble of the hurricane, will believe, that these irregularities are governed by fixed laws—that the phenomena have been by man, to a great extent, and may be, more generally, reduced to rule? Such, however, must be the conviction of him who reads the work, and studies the charts, before us. The evidence, collected and collated by Colonel Reid with so much industry and perseverance, and brought before the public with the modesty that always accompanies the act of a mind, thoroughly awakened, alive to the wonders of the universe, is not of a nature to be controverted. Extracts from the logs of numerous ships widely spread over the ocean, entries made on the same days and in the same hour by individuals unacquainted with each other's position—ignorant of the "law of storms," registrars of facts—attest and prove, that if the motion giving force to the hurricane be gyratory, proceeding from a calm centre, decreasing in velocity as it reaches the periphery; and if the progress of this rotatory, tremendous force, be in a direct course, only at the speed of the ordinary atmospheric currents; the time and mode of approach, the varying and veering direction of the wind, and the singularly regular fall and rise of the barometer, must have occurred as therein described and registered. The converse conclusion is clear, the data being true, the motions of storms is gyratory, &c. Isolated facts never could, accumulated and collated facts alone could, have confirmed the views attributed by Col. Reid to Mr. Redfield, of New York, and to Col. Capper, of the East India Service. So much, however, has been done by the philosophy and perseverance of a single individual, of what was believed, at the meeting of the British Association at Edinburgh, to be perfectly hopeless even with the power of the influence of that body, that the name of Reid will be remembered, with thankfulness, as the modifier of the destructiveness of the storm, so long as storms shall exist. Col. Reid's work will be the beacon to warn, and the buoyed channel to escape, from danger. The study of it will be attended with practical benefit to the navigator, with enlarged views of the order of the operations of the Deity to the natural philosopher, and with considerable interest to the general reader.

Our full report of this subject, brought forward by the gallant colonel at the recent meeting at Newcastle, and of the sentiments and opinions then and there expressed by men occupying the high places in science, and possessing minds so capable and exercised to judging these things, renders a more lengthened notice, or extracts to elucidate the views contained in this valuable work, unnecessary. No preface, no formal ceremonious introduction, no fawning, no attempt to propitiate the public or a patron, disfigures the commencement of it. We quote the first paragraph of the introductory chapter to strengthen our expression of modesty, as applicable to the author. He says:

"Having engaged to explain what I had learned regarding tropical hurricanes in an article inserted in the second volume of 'Professional Papers,' printed by the corps of Royal Engineers, I have become much interested in the subject, and believing it to be one of importance, am induced to attempt to direct public attention towards further investigation into the action of nature in great storms."

With this latter belief and view, we also extract the following opinion of the author as to the theory upon which the origin of storms may be explained, although he advances no hypothesis of his own:—

"It is a well-known fact, that some parts of the globe are more subject to storms than others; and I have, throughout this investigation, felt impressed with the opinion, that the force and frequency of storms may have some connexion with the law of magnetic intensity. The islands of Mauritius and St. Helena are nearly in the same degree of south latitude; yet at St. Helena a gale was scarcely ever known, and it is said to be entirely free from actual storms. Those who study Major Sabine's report on the magnetic intensities of the globe, and follow his isodynamic lines, which express unity, will find them opening from each other in the northern part of the South Atlantic, and including a space which thus really appears to be the true Pacific Ocean of the world. Within this space, on Major Sabine's charts, will be found two other lines, marking intensities in decimal parts less than unity; and he states that the intensity at St. Helena, as observed by Captain Fitzroy, is 0·84: 'the lowest denomination recorded, and the locality of the weakest intensity yet observed on the globe.' When we examine the lines of the greatest intensity, we find them 'approaching each other in longitude 110° and 260°' (100° W.), but in different latitudes; for the line of least intensity does not coincide with the earth's equator. In the Chinese Sea, in longitude 110° E., it is to the north of the equator, proceeding thence in a direction southward of St. Helena. Of the supposed four magnetic poles, the positions of the two in the northern hemisphere are the best ascertained. The meridians which run through these two poles, run also through the Chinese Sea, and near the Caribbean Sea, the localities of typhoons and hurricanes; and Major Sabine's isodynamic lines indicate the magnetic intensities so strongly marked there, that we are led to the belief that there must be some connexion between the magnetic intensity and the force of storms. The study of electricity, as connected with the weather, deserves to be renewed. Comparisons may hereafter be made between the electric state within the compass of a great storm and of the atmosphere around its verge; and if seamen dare to pass across the smaller gyrating columns, or circles, they may possibly be able, by finding out their electrical state, to explain the cause of their now mysterious action."

If to transfer diagrams to our columns, were as easy as to refer to page 425, and the concluding pages of the work before us, we would also publish the important and valuable "Rule for laying Ships to in Hurricanes," therein contained; but an explanation without illustration may do more harm than good.

We cannot conclude without commending the manner in which the work has been compiled, and the illustrations projected; the charts will convey, even to the general reader, an explicit, satisfactory knowledge of the "law of storms;" and, at one view, bring before him the extent and weight of the mass of evidence collected by Col. Reid.

A Dictionary of the Anglo-Saxon Language, containing the Accentuation, the Grammatical Inflections, the Irregular Words referred to their Themes, the Parallel Terms from the other Gothic Languages, the Meaning of the Anglo-Saxon in English and Latin, and copious English and Latin Indexes; serving as a Dictionary of English and Anglo-Saxon, as well as of Latin and Anglo-Saxon: with a Preface on the Origin and Connexion of the Germanic Tongues, a Map of the Languages, and the Essentials of Anglo-Saxon Grammar. By the Rev. J. Bosworth, LL.D., F.R.S., &c. 8vo. London, 1838. Longmans and Co.

THE substance of the English language, its vigorous root, its firm and massy stem, with its wide-spreading branches, are all Anglo-Saxon. Though its foliage has been varied and adorned by scions of Grecian, Roman, and Norman origin, our present English is completely Anglo-Saxon, in its whole idiom and construction. The work now before us, for the first time, lays fully open the source of our copious and powerful language. It is denominated an Anglo-Saxon Dictionary, but it is, in fact, a lexicon of early English; for the celebrated Ælfric, one of the first and purest Anglo-Saxon writers, so styles his native tongue. In the preface to his Latin Grammar, compiled from Donatus and Priscian, and translated into Anglo-Saxon, the English of his time, he says:—"Ic, Ælfric, wolde thas lythan bóc awendan to Englisc um gereode, forthan the stæf-cræft is seo cæg the thara bóca and gyt unlyeð. *I, Ælfric, would translate this little book into the English tongue, because that grammar* (letter-craft) *is the key which unlocketh the sense of books.*" Ælfric calls Anglo-Saxon, English, in his preface to Genesis. "Thu bæde me awendan of Ledene on Englisc tha bóc Genesis. *Thou badest me to translate* (wend) *from Latin into English the book of Genesis.*" If it be our reproach, that our most eminent literary men have been so much occupied in studying Latin and Greek, that they have scarcely deigned to cast a glance at their own mother-tongue, much less to examine the beauty of its structure, or its nervous power, the reproach is now removed; for here we have a work, which, while it contains the derivation and original meaning of

all pure Anglo-Saxon words, proves, beyond the shadow of a doubt, that the bones and sinews, the real strength and vigour of our good old English, is, like our being, our customs, and our free constitution, entirely derived from our hardy and independent Anglo-Saxon forefathers. Dr. Bosworth observes: —

"Wherever our Germanic or Saxon tribes appeared, liberty prevailed: they thought, they acted, for themselves. They would not blindly follow any system, or any leader: they were free. Hence, Theodoric, to retain his power, found it necessary to encourage native literature, and to induce Cassiodorus to write a history of their tribes. Charlemagne, for the same reason, gave encouragement to genius. Our Alfred the Great saw and felt that the only effectual mode of giving full establishment to his authority was by enlightening the understanding of his subjects, and influencing them by the solemn sanctions of religion. These he wisely attempted to convey in the vernacular idiom, the Anglo-Saxon, convinced that his subjects loved even the language of freedom. Our immortal Alfred was not only the first general of his age, but the greatest patron of literature and science. He was himself a most diligent student and writer of his own language, as is evident by his Anglo-Saxon versions of the Scriptures, Bede, Orosius, and Boethius."

We refer to the Preface of Dr. Bosworth's work for much interesting information on the writings of the Anglo-Saxons; but his view of the use of etymology, and the advantage of the knowledge of Anglo-Saxon, in ascertaining the real sense of many English words, will be best shewn by a short extract and a few examples.

"The judicious etymologist is anxious to obtain the right meaning of words. He is not satisfied with the common and external signification received from popular use; but he examines their structure, their radical—that is, their real and internal—meaning, and thus endeavours to discover the reason of the application of the term. When the understanding is thus called into exercise, in the formation of words, precision is not only given to expression, but the higher faculty of reason lends its powerful aid to the meaning, and greatly facilitates the acquisition of a language. The etymology of a word being understood, and thus the sanction of reason obtained, neither the exact meaning of that word, nor any of its family, can scarcely ever escape from the memory."

We give an example or two of the use of Anglo-Saxon in the derivation of English words. "Acorn, æceren, æcern, from æc, ác, *an oak*; cern, corn, *corn: the corn or fruit of the oak*. Childhood, cildhad, from cild, *a child*; had, *a condition, state*. *Kingdom*, cyngdóm, from cyning, cyng, *a king*; dóm, *power*, jurisdiction: *a king's jurisdiction*, or *dominion*. Island, easland, from ea, *water*, eas, *of water*; land, *land*. *Neighbour*, neah-bur, neah, *near*; bur, *a bower*, dwelling: *one who has a dwelling near*. Wilderness, wild-deor-nes; deor, *a beast: a wild beast's habitation*. The names of places are generally descriptive of their site; thus, Eton has a low, watery locality, from æ, ea, *water, a river*; ton, twn, *a town: dwelling*. *Sandwich*, sand-wic, sand, *sand*; wic, *a dwelling, station*. *Hithe*, hyth, *a port, haven*."

This work is a necessary supplement to all our present English dictionaries, and ought to be in the hands of every one who has any pretension to a thorough knowledge of the English language. Schoolmasters, and indeed all who wish to know the real signification of the words they daily use, will here find a ready access to their original meaning.

On the Causes of Planetary Motion. By Jabez Allies, Esq. 8vo. pp. 12. London, 1838. Edwards.

TITLE carries with it a certain degree of respect, and, if genuine, however ill sustained, takes rank, occupies its station, and commands deference. But when discovered to be false, pretension only, in proportion to the injury inflicted upon society is its assumption treated with rigour or ridicule. The title-page of the pamphlet open before us, with a diagram illustrative of the "causes of planetary motion," did for a moment gain the attention and respect due to its apparent high rank. We looked carefully through the little work, impressed with an idea of its importance, and were disappointed to discover it a hoax; for none other can it be. No one could bring forward seriously the explanation of the phenomena of the trade-winds as the cause of planetary motion; nor believe that the "sun's rays falling upon the earth and her atmosphere obliquely in the line of the sun's rotation round his own axis, and causing an agitation of the atmosphere, and particularly an excitement of the caloric or latent heat, and thereby producing a comparative rarefaction of the atmosphere on that side the earth, and causing the atmosphere on the other side of the earth to press forward to keep up the equilibrium," could "cause the earth to turn round her own axis in that direction, and also assist in pressing her on in her orbit round the sun;" nor gravely write "what is here said respecting the earth, also equally applies to all the other planets." To bring forward the glorious laws of Newton and of Kepler, to refute the "corroborations" of the theory of Mr. Allies, would, indeed, be exerting a giant's strength to kill a gnat. The economy of power is a valuable knowledge. The force of reasoning is not requisite to shew that the rarefying theory is a hoax.

Rara Mathematica; or, a Collection of Treatises on the Mathematics, and Subjects connected with them, from ancient unedited Manuscripts. No. I. 8vo. pp. 48. 1834. Cambridge, Deighton; London, Parker.

EVERY person who entertains curiosity upon mathematical subjects, will be greatly pleased and amused by this publication. For centuries we are darkling in regard to their cultivation, pursuit, and progress; and in any retrospect leap, as it were, an oblivious gulf from very early to very recent times: all the intermediate being little better than on a blank. To resuscitate this class of antiquarian lore is the object of the present, and, if we judge from the beginning, it could not be in abler hands. The first paper is Joannis de Sacro-bosco's "Tractatus de Arte Numerandi," which goes from Addition, through the four simple rules, to the Cube-root, finishing with "de extractione radicum dicta sufficiant." The next is, "A Method used in England, in the Fifteenth Century, for taking the Altitude of a Steeple, or inaccessible Object," from the Lansdowne MSS. in the British Museum (fol. 23. B), which is a very short and rude recipe for a period when the use of the quadrant was well known. A treatise on "Algorisms," from a MS. of the fourteenth century; and another on "the Properties, &c. of Optical Glasses," *temp.* Elizabeth, by William Bourne, is a quaint and curious description of the forms and method of making glasses of various sorts. The last page commences a notice "*de Cometis*," by John Robyns, of All Souls, Oxford, which bids fair to be an entertaining paper; and with it, and his work generally, we trust the editor will be encouraged, as he well deserves, by antiquarian readers, to proceed with spirit and diligence in resuscitating such rare materials.

MISCELLANEOUS.

Narrative of Henry John Marks, formerly a Jew, now a Follower of the Lord Jesus Christ, written by Himself, with an Introduction by the Rev. Charles B. Tayler, M.A., Rector of St. Peter's, Chester. (London, Hatchard and Son; Hamilton, Adams, and Co.; and Seacombe, Chester.)—This is a curious little book, containing the history of a converted Jew. The means taken by his friends and family to reclaim him, and their finally mourning him as dead to Israel; the efforts, then, to keep his wife within the pale of the old law, and submit his children to its ceremonials; and other circumstances of his spiritual warfare, and its concomitant worldly persecutions and sufferings, furnish, altogether, a singular picture of Jewish opinions and conduct on such occasions. We quote one amusing anecdote. Mr. Marks, in the midst of his tribulations, says—"My own circumstances remind me of an anecdote of a learned rabbi. A man in his congregation, from a state of affluence was reduced to poverty. He went to the rabbi, and, after stating his distresses, asked his advice how to extricate himself from them. The rabbi replied 'You have no power to help yourself; put your trust in God, and he will help you.' The man returned home, not well pleased with the advice he had received; and finding his difficulties increase, he went again and again to the rabbi, and every time he gave him similar counsel; till, at length, he went to the rabbi in great wrath, and said, 'You have greatly deceived me, for I have been compelled to pledge my bed.' 'Well,' said the rabbi, 'I told you that the Lord would help you.'"

Coronalia, by C. Bond. Pp. 22. (London, Seeley and Co.)—A little poem, in honour of the coronation, of a high religious cast and strong Protestant feeling.

Lardner's Cyclopædia, Vol. CVI. Eminent Literary and Scientific Men of Great Britain, Vol. III. (London, Longmans.)—This volume contains fifteen biographies, beginning with that of Shirley, in 1596, and ending with that of Mrs. Cowley, in 1809. It appears to us that the materials have been made the most of; but no very new or important feature has been added to any of the lives.

Milman's Edition of Gibbon, Vol. VI. (London, Murray.)—The sixth volume of this capital edition is greatly enriched by notes illustrating the text; many of which are very interesting. The volume is embellished with a map of Europe about the end of the fifth century.

The New Statistical Account of Scotland, No. XIX. (Edinburgh, Blackwood and Sons; Cadell, London.)—This ably conducted work makes its onward progress with as much fidelity as was promised at its commencement. The present number is devoted to Perthshire, and is full of valuable historical and statistical details. We can only say, for the nineteenth time, how well worthy it is of public consideration.

Standard Novels. No. LXX. My Life. (London, Bentley.)—Captain Marryat's sea tales being finished, Mr. Bentley has returned to his old stores: and we now have the amusing adventures of Captain Blake added to this popular series.

The Sportsman's Directory, by John Meayer, Gamekeeper. The Sixth Edition. (London, Simpkin, Marshall, and Co.)—A gamekeeper must be a good authority in matters connected with sporting, and that Mr. Mayer is so considered is proved by the words on the title-page: "Sixth Edition."

ARTS AND SCIENCES.

THE BRITISH ASSOCIATION.

EIGHTH MEETING: NEWCASTLE.

(Fourth notice.)

THURSDAY.

WEDNESDAY, as we have previously noted, broke the neck of nearly all the actual business of any consequence to the meeting; and the *fêting* (which, however, had not been neglected before) assumed a still more overwhelming force. Nevertheless the Sections met as usual.

SECTION A.—*Mathematics and Physics.*

A paper from Professor Forbes of Edinburgh, read by Professor Phillips, gave an account of his continued experiments with thermometers placed in the earth at various depths, and near various strata, in order to ascertain the earth's temperature at different seasons, and the penetration of the solar heat below the surface. Our readers will remember that this inquiry held a prominent place at the Bristol meeting; and its further investigation has been carried on in the neighbourhood of Edinburgh, where

the professor sank the instruments at the depths of 26, 13, 6½, and 3½ feet. Four thermometers, to which a fifth has since been added, were deposited in each of the following places; viz. in the trap-rock on the Calton Hill, in the solid sandstone of Craigleith quarry, and in a fine bed of sand in the Botanic Garden. Professor F. is now in Bavaria; but, up to the period of his leaving Scotland, his observations had been continued with perfect regularity during a period of sixteen months. These observations, corrected for the temperatures of the stems of the thermometers, he had projected in curves, and trusted to be able personally to lay the results before the Association at their next meeting. The letter of the professor then noticed a remarkable spring, situate about a mile from Kissingen, in Bavaria, to which his attention had been much directed. It was a brine spring, having three per cent of salt, rising in a bore, 352 Bavarian feet deep, in red sandstone, with a perfectly steady temperature of sixty-five degrees; the generality of springs in the neighbourhood being from fifty to fifty-two degrees. It discharged carbonic acid gas in great quantities, the emission of which kept the water, in a shaft of eight feet diameter, in a state of great turbulence: of nitrogen, scarce a trace was perceptible. The most remarkable circumstance connected with the well was, that five or six times a-day the discharge of gas suddenly stopped, and in a few seconds the previously agitated surface of the current became calm. It remained negative about fifteen or twenty minutes, when the shaft was suddenly refilled, with the water rapidly, and with the gas gradually. The discharge then continued during three or four hours, when the subsidence again took place for the period above stated.

Mr. Russell gave a verbal explanation of a substitute for the barometer, proposed by Sir John Robinson. It was often found inconvenient, in making extensive surveys, to carry that instrument to the tops of mountains to ascertain the density of the air at their summits; and the mode proposed by Sir John to obviate this was, instead of taking the barometer to the top of the mountain, to bring down the top of the mountain to the barometer. In other words, he proposed to bring down a portion of the air in glass tubes of easy portability, which could be measured by the barometer at the bottom of the mountain. The person ascending carried with him a wooden box, containing a thermometer and a number of tubes, open at one end, and blown into bulbs at the other; and after noting the thermometer at each station, immersed the open end of one of the tubes in mercury. The examiner at the bottom of the mountain, by placing each bulbed tube, containing its consequent quantity of mercury, under the receiver of an air-pump, together with a barometer or accurate guage, and exhausting the receiver until the mercury stood within the bulbed tube as it did upon the mountain, making allowances for differences of temperature, could ascertain the height at which the barometer would have stood at each station on the mountain, and thence the height of the station.

Professor Stevelly rejoiced to find the air-pump so long and so much neglected beginning to be used in such inquiries.

The next paper read was one by Sir J. Herschel 'On the subject of Halley's Comet,' that triumph of modern calculation. It was perceived by Sir John on the 25th of January, 1834, when it was well defined, having for its centre a small bright disc, and surrounded by nebulæ. He then found, that on the 21st, at two in the afternoon, some remarkable change in the position of the comet must have commenced. And he afterwards learned, that Professor Boguslawski, of Breslaw, had his telescope directed point-blank on the comet on that day, when the only appearance it presented was that of a star of the sixth magnitude. From this he concluded, that there had been a rapid absorption of nebulæ during its perihelion; and that on its return from the sun the nebulæ were precipitated. This would account for his (Sir John's) not seeing it till the 25th, as on the 21st it was only like a star, and could not have been recognised by Professor Boguslawski had his instrument not been previously directed to its exact position by calculation. It was a perfect comet when seen on the 24th by Mr. Maclear; and had it been visible as such before that time, he (Sir J. H.) thought he must have observed it, as he repeatedly swept the heavens in the very direction where it appeared. He conceived that the nucleus and grosser parts of the comet must have been entirely evaporated during its perihelion, and re-precipitated as the comet receded from the sun, coming into a colder region; and that this precipitation commenced on the 21st of January.

The reading of this paper excited very considerable interest, and the idea of a comet's losing itself in the solar atmosphere was the subject of nearly all the talk in Newcastle during the rest of the day, till other matters arose to absorb the attention.

Sir David Brewster offered some observations on a new phenomenon of colour in certain varieties of fluor spar. In the fluors from Derbyshire, consisting of strata, differently coloured, a beautiful blue colour, different from that which is seen by transmitted light, is most powerfully developed in the purplish, or bluish-brown strata, in a less degree in the greenish, and still less in those layers which are colourless by transmitted light. In the first of these cases, the blue colour may be distinctly seen when the crystal is held in the common light of day. The colour is still more brilliant in the bright light of the sun, and may be greatly increased by covering part of the crystal with black wax, or by immersing it in a glass trough, covered externally with wax, and containing an oil of nearly the same refractive power as the spar. Fissures within the crystal will much influence the effect of the experiment by reflecting the transmitted light. To have, however, ocular evidence of the nature, character, and beauty of this experiment, a beam of condensed solar light should be transmitted through the crystal. In the green fluor of Alston Moor, the different shades of blue, given out by exposure to strong light, are not so highly contrasted as in the Derbyshire specimens. The blue colour is reflected from surfaces within the spar; it is not observed in all specimens, nor in every part of the same: it therefore must be caused by extraneous matter, of a different refractive power from the spar, introduced between the molecules of the crystal during its formation. It cannot be produced by shallow cavities, or minute pores, as in some of the opals, Sir D. B. argued; because the specimens in which it occurs are so perfectly transparent, and because he had observed the same reflected tints in fluids, particularly the juices of plants extracted by alcohol, and in several artificial glasses. Sir D. Brewster conceived that the blue tints in fluor spar might be discharged by heat, and might even be connected with the phosphorescence of the mineral. He accordingly exposed two specimens, one of the Alston Moor, and one of the Derbyshire fluor, to a powerful heat. Both emitted a blue phosphorescence, similar to the reflected tint, and much of the natural colour of the fragments was discharged. In another experiment with the Alston Moor fluor, the reflected tint appeared to be wholly removed; but in a third, with a specimen of the latter taken from the solid angle of the cube, the blue tint still appeared, though with an impaired brilliancy. Intense heat may, possibly, altogether destroy the blue tint, but the decrepitation of the mineral by the action of heat, renders it difficult to obtain satisfactory results.

Sir J. Herschel was inclined to attribute the phenomenon to irregularity of structure, as it also manifested itself in some kinds of liquids. M. Arago had observed to him, with respect to the deep blue colour of the Lake of Geneva, that he was inclined to attribute it to some such internal structure as, from an unknown cause, was to be seen in some specimens of fluor spar. This remark led to a discussion on the colour of the water in the sea, in lakes, and in some rivers. The lakes Neufchatel, the Scottish lakes of the Grampians, the Glass-lough, in the county of Monaghan, in Ireland, and the waters of the Rhone, were principally instanced.

Sir D. Brewster said, that Sir H. Davy had attributed the deep blue of the Swiss lakes to extreme purity in the water. To the presence of animals, of the vegetable matter growing towards the bottom, to the particular colour of the slates, finely disintegrated particles of which might be held in solution, was attributed the different colour of different waters by the several speakers.

Sir J. Herschel concluded the discussion by observing that, with respect to the Lake of Geneva, the question could, perhaps, only be decided by the aid of a diving bell, to examine under the waters of the lake the fixed lines of the solar spectrum.

The Rev. J. Watson read a paper 'On the Helm-wind of Cross-fell.' Round the summit of the mountain a cloud collects; sometimes resting on, and at other times above, the top. This is called the helm, from being supposed to resemble a helmet on the brow of the hill. At some distance to the west of this, a similar collection of clouds, called the bar, takes place; and between the two, so long as the appearance lasts, a violent wind rushes, though beyond the bar, on the western side, all is perfectly calm. The country subject to the wind is healthy, but vegetation suffers severely. While the helm-wind is running to the east, the helm itself is proceeding in a northward direction. There are no clouds between the helm and the bar, but, occasionally, fleecy portions of the former will detach themselves, and proceed rapidly to the latter. The most plausible theory that had been suggested to account for this, was, that the air collected at the west side of the mountain, and, cooling as it ascends, forms a cloud above the summit, which is fed by the condensation of fresh air.

Professor Stevelly said, a nearly similar appearance occurred in the neighbourhood of Belfast.

Sir John Herschel stated that the Table Mountain, at the Cape of Good Hope, presented similar phenomena. The cloud sometimes fell from the mountain, as if it would overwhelm the whole of the surrounding country; but it became invisible before it reached the ground. In his opinion, a rebound took place, in consequence of the cloud getting into a different

current of air, and it was carried fifteen or twenty-five miles off, where it formed what was in this instance called the bar.

Professor Bache said, he remembered going up Mont Cenis, when the wind blew lightly from the eastward; as he ascended, it began to blow violently from the west, and at the summit he observed a stationary white cloud. Wondering how a cloud could thus withstand the force of a strong wind, he examined it more minutely, and found that it was formed by the west wind rushing up the mountain side, where it was absorbed to form the cloud, which was itself as speedily dissipated.

Mr. Smith read a paper 'On the Quantities of Rain that fell in different parts of the Kingdom;' and attributed the singular differences that existed to local circumstances, such as the formation of mountains, &c. At London as little rain fell as at any other place in the kingdom, Edinburgh excepted; and about Keswick the greatest quantity. He thought the causes of rain were traceable to the earth's surface; and it shewed that it was in the power of man to improve the locality in which he was placed: so much, in fact, as in a great degree to make his own climate.

There can be no question that planting or clearing woods, draining, &c. &c., produces considerable effects; but it is not easy to say how far Mr. Smith's system would prevail in limited localities.

The next subject was one of very considerable interest, and introduced by Mr. Wheatstone, one of the most ingenious and successful of all the practical philosophers whose presence these meetings can boast. Having been previously favoured, in London, with a sight of the apparatus now exhibited, we can speak most warmly of its beautiful simplicity and effective illustration of the curious principles of human vision. The STEREOSCOPE, for so it is named by its inventor, consists of two small squares of looking-glass placed at an angle, with the angle presented to the eye; a thin board, with two holes to look through, set transversely in front. On each side are two other thin boards, as if the walls of this small machine, and on these are pinned the objects submitted to inspection; such as mathematical figures, squares, truncated pyramids, &c. &c. On looking into the glass the spectator sees their reflection, and by alternately shutting the right and left eye, has visibly and strikingly demonstrated the remarkable phenomena which cause the double image; *i. e.* the image made upon the retina of each eye to appear as but a single image to the mind. This, which has perplexed metaphysicians, and upon which volume upon volume has been written, is rendered clear to the comprehension of childhood by the easy and obvious experiment of Mr. Wheatstone, and by a contrivance so simple, that, when once seen, any person may construct a copy in an hour.

We beg particularly to call attention to the *Stereoscope*, as one of the most novel, valuable, and satisfactory products of the Newcastle meeting. By and by it will doubtless be applied to works of art, and we can fancy that paintings, solid forms, &c. will soon be submitted to a multitude of charming as well as instructive processes with this most philosophical (as far as an elucidation of the intricate phenomena of vision are concerned; and, in other respects,) very delightful instrument.

The Rev. Charles Graves read a paper 'On a general Geometric Method;' advocated the importance of the theorem of M. Chasles, contained in his "Histoire de la Géométrie," viz. "The anharmonic relation of four lines drawn from four fixed points in a conic section, to any fifth point in the curve, will remain invariable," as a geometrical characteristic of conic sections; and pointed out its mode of application to the determinating of loci, and to the general elucidation of theorems relating to conic sections.

Sir W. Hamilton was glad that Mr. Graves, who was so well qualified, had taken up this subject.

SECTION B.—*Chemistry and Mineralogy.*
Professor Whewell in the Chair.

Professor Thomson read a paper 'On the Foreign Substances in Iron.' It was an inquiry into the difference in quality of iron, three specimens of which were examined—the best Swedish iron, common Welsh iron, Low Moor iron: the former of which was found to have the greatest specific gravity, being 7·9125, that of Welsh, 7·4359, and Low Moor, 7·3519. The whole were analysed as follows:—

	Swedish.	Welsh.	Low Moor.
Iron	99·56	99·498	98·060
Carbon	·26		
	·05		1·868
Silicon	·03	·085	·090
Phosphorus		·417	
	99·90	100·000	100·018

The professor did not consider this analysis sufficient to account for the difference in the specific gravity of these irons, which he ascribed to a mechanical cause, the Swedish iron having probably been exposed to large hammering or rolling, on which its greater strength depended. Welsh iron was, however, capable of making the best steel, a property which might be attributed to the phosphorus which it contained.

Professor Johnston read a paper 'On some exceptions to the Law of Isomorphism,' and exhibited diagrams to shew that substances crystallising in the same form, were not always composed of the same formulæ—a doctrine which is generally received. He gave the results of several experiments in support of his view. This paper produced a discussion as to the doctrine, that similarity of chemical composition induces similarity of crystallised form, which Dr. Thomson considered to be overturned by the admissions of Professor Johnston. Professor Whewell observed, that crystals might have the same external form, and yet the cleavage and optical properties be entirely different; and that the doctrine should not be abandoned from a few instances of differently constituted bodies agreeing in external form.

Mr. R. Mallet read a report 'On the Action of long-continued Heat, at 212° of Fahrenheit, on organic and inorganic Bodies,' made at the request of the Association. The author had not had time to obtain any results of sufficient interest for the Association, but expected that various new combinations might be produced upon organic mineral substances.

Dr. R. D. Thomson and Mr. Thomas Richardson 'On the Decomposition which is produced by the Action of Emulsin on Amygdalin.' This paper detailed the analysis of emulsin, and the deduction of its rational formula, from which the phenomena of the above decomposition were clearly explained.

Professor Graham thought the inquiry most valuable, as it would throw light on various other bodies of the same class.

Mr. Exley read a paper 'On Chemical Combinations, produced in virtue of the Presence of Bodies which remain, to continue the Process,' to support his doctrine of attraction and repulsion. In illustration of this phenomenon, which Berzelius has named catalytic force, Mr. Exley instanced and explained the action of a jet of hydrogen on spongy platina, in consequence of the sphere of repulsion being very small, because of its great density and atomic weight—the conversion of starch into sugar, with dilute sulphuric acid—of sugar into alcohol—and of alcohol into ether, by the same means.

Mr. W. Herapath read a paper 'On a new Process for Tanning.' The principle consisted of forming hides into an endless band, and passing it between a pair of rollers fixed to each pit; so that, in succession, each hide may be raised from the bottom of the pit, squeezed by the rollers, and returned to the pit for a fresh supply of tanning liquor.

Mr. Maugham exhibited an apparatus which he had invented for the purpose of liquefying gas, and obtaining a high atmospheric pressure. Mr. Mallet and Mr. Addams, whose similar apparatus was exhibited on the preceding day, were of opinion that the invention would not answer any profitable purpose; and the chairman said, that any discussion on the merits of what had not yet been tested would be premature.

A paper, by Mr. E. R. Ridley, was read by Mr. Simpson, 'On the Condensing of Muriatic Acid Gas, by uniting it with Steam.'

Mr. John Dawes read a paper 'On the Improvement of the Manufacture of Iron, by the use, as a Fuel, of Gas obtained from Water.' This was procured by jets of steam passing through iron pipes filled with small coal. The cost of 3*s.* or 4*s.* would produce 300,000 feet of gas, and the process would be found extremely economical.

A description, by Professor Miller, 'Of an Improvement in the Construction of the Reflective Goniometer,' to render the instrument more portable, concluded the business of the Section (Thursday).

SECTION C.—*Geology and Geography.*
Mr. Lyell, Chairman.

Professor Sedgwick, previous to the chair being taken, read a letter from Mr. Krantz, of Berlin, announcing that he had arrived here with a collection of shells, which he offered to sell to private collectors, or for public museums.

The chairman expressed, for himself and the committee, their grateful sense of the unwearied and most effective exertions which the local committee had made, under circumstances of peculiar difficulty, in arranging every thing for their convenience and accommodation. As he had before noticed, Friday would be set apart to the geographical portion of the Section, when several valuable papers would be read. Amongst which would be Major Jervis's account of the survey in British India, Captain Allen's account of the exploration of the Niger, and many others. He would also mention that, as this was the last entire day which they would have for geological business, and as the number of papers had considerably increased, he trusted that gentlemen would see the necessity of being brief in the remarks which they might feel it their duty to make.

Dr. Daubeny then read a paper 'On the Mineral and Thermal Waters in the Western Hemisphere.' The paper commenced with a rapid account of the geology of North America, in which he instanced no fewer than twelve formations which were older than our primary formation, and none of them newer than our coal formation. In making his geological observations he had been much assisted by the Messrs. Rogers, of New York, two gentlemen who had paid great attention to that branch of science. The doctor then gave an analysis of the nature and properties of the springs, in

which he traced a great analogy between them and those found in different parts of Europe; some of those were famous for their healing qualities, and were much resorted to by the inhabitants in their respective neighbourhoods. The doctor further stated, that he had brought a number of geological specimens with him, which, as he did not wish to crowd the table, he would shew to any persons wishing to see them in the committee-room below.

The chairman said, the meeting was much indebted to the enterprise of Dr. Daubeny, in thus travelling to a great distance to discover the analogy between the thermal springs of that country and those found in Europe.

Professor Sedgwick said, he rejoiced at those magnificent surveys which were being made all over the United States, and which did that country the highest honour. He then proceeded, in an animated manner, to descant upon the splendid character of the American formation, and observed that it was a great thing to see men with British blood in their veins, and British enterprise in their bosoms, going forth and interpreting nature in her own rough but comprehensive language for themselves, without heeding the dogmas of those who had gone before them.

Professor Buckland observed, that it was now ascertained that the extent of coal, good bituminous coal, in America was enormous, and would be productive of the most extraordinary results. When the Newcastle coal-field became exhausted, it was more than probable that we would have to avail ourselves of the coal of that country.

Mr. Owen then rose to communicate his 'Observations on the Structure of the Teeth of Extinct Animals.' He began by observing that, for some time past, anatomists had thought the structure of the teeth very simple; but, from several experiments which he had made with the microscope, both upon recent and fossil teeth, he found that their structure was much more complicated than could have been supposed. Mr. Owen then entered into an elaborate and minute account of the elements and formation of various teeth belonging to fossil fishes and animals, illustrated by highly coloured and highly magnified specimens on paper. He had examined sixty classes—mammalia, reptiles, and fishes; and he found, on comparing their structure with the teeth of man, and with those of each other, that they all differed: so that it was possible to decide not only the family, but even the genus, from the fragment of a tooth. The application of this discovery would be evident to every geologist, since the teeth formed the most durable parts of vertebrated animals, being those which were most frequently found in different strata.

The chairman said, such results were most encouraging to the anatomist in determining the genus of animals, for by an examination of the teeth alone that could be ascertained.

Professor Sedgwick said, Mr. Owen deserved great praise for his extraordinary knowledge of facts, and his great skill in using them; and all that he had shewn was illustrative of the fact, that law and order, implying design, pervaded all the works of the great Author of nature.

The chairman then called upon Professor Buckland for his paper 'On the Footsteps on Sandstone near Liverpool;' and Professor Buckland said, they had just heard a paper from Mr. Owen, by which they would, by a fragment of a tooth, be enabled to speak to the genus of any dead animal, but he was now called upon to speak of four or five species of animals of which not a fragment of skin or bone was found on the earth; the evidence of their existence was founded solely on their footsteps. This paper was drawn up at the instance of the Natural History Society of Liverpool, by Mr. Cunningham, an eminent architect; and the footsteps of the animals were originally discovered in a quarry, near Liverpool, not above two months since, by a Scotchman named Forrester. There were three floors, or pavements, in this quarry, from the lowest of which the slabs, containing these impressions, were worked, and applied to the forming of a garden wall, from whence four of them were taken, full of beautiful impressions of the feet of these animals, with the cast of the nails as perfect as if they had been moulded in wax. These slabs were now in the museum at Liverpool, together with a series of slabs twenty-one feet in length, filled with these prints; an engraving was exhibited for sale: the impression of the foot was like such a mark as a man would make with his thumb and finger in forming a bridge with his hand in playing at billiards. The hind foot was double the size of the fore foot.

Dr. B. proceeded to say, that he was in the quarry himself very lately, and assisted one of the workmen to raise a slab on which were the prints of these animals, which had never seen the sun since the time when they were first made. Precisely similar footsteps were found at Hilberghausen, in Saxony, three years ago. They had also been found in Dumfriesshire; and although there was no tooth discovered, nor a particle of skin, the evidence of their having lived was as good as if they had been, and such as any living jury would hang any living prisoner upon. In connexion with this subject he would mention, that at Liverpool had been discovered the impression of a fossil shower of rain. It was a fact! the impression of a fossil shower of rain had been discovered upon sandstone; it could not be mistaken for the ripple of the water,—that was common enough—it had all the smallpox character, the pitted appearance which a heavy shower of rain would leave, and which would be covered up by the next tide, and so preserved to future generations. The impressions on the sandstone were handed about the room, and were very perfect.

Mr. Yates, in corroboration of the statement of Dr. Buckland, said he had visited the quarry and had seen a proof of the fact; he had seen the traces of six distinct animals.

The next paper was from the Rev. G. Young, A.M., of Whitby, 'On the High Antiquity ascribed to the Organic Remains in Stratified Rocks.' He endeavoured to shew that the very high antiquity assigned to these remains by many geologists could not be supported; and, with this view, argued that the animals and vegetables imbedded in the strata did not live and die on the spots where they are found, but must have been drifted thither by currents. He noticed, also, various differences in the strata, indicating that they might have all been deposited nearly about one period.

The chairman said, whether or not vast periods of time had elapsed in the formation of these substances had been, and must be, a matter of discussion. In regard to one point, namely, the doctrine of the origin of coal, it had already been discussed, whether that formation was the result of the submerging of forests or of peat bogs, or whether it was by the drifting of the vegetables of ancient lands, and had occupied the Section on a previous day; and it would be recollected that the opinions of some of the most skilful geologists were in favour of the idea that drifting had been the origin; therefore, the time of the Section need not be occupied in discussing that point now.

Professor Sedgwick said, he rose with very different feelings on this paper, from those by which he was animated on the last. In commenting on this paper there was the remark which he would make at the outset—they could not discuss theories; they were met to consider facts, and bring them together so as to enable them to grasp with new and greater generalisations of nature. They must take their reasonings on the formation of the earth from the book of nature, a book the leaves of which they could all turn over; and, from a careful inspection of that book, they would see that a very long period indeed must have elapsed during these formations. There was organic life within the centre of a pebble; that being must have died and undergone the process of petrifaction, a process which in itself must have occupied a long time. All the formations exhibited abundant proofs of this; the red sandstone, the carboniferous limestone, all exhibited particular lines of tranquil growth and deposit, which indicated a long segnence of time. The coal measures themselves indicated a vast lapse of years; and every feature of nature was in contradiction to the theory of the reverend gentleman, whom he (Professor Sedgwick) respected for the boldness with which he had given out his opinions on the coast of Yorkshire; but they could not settle the stratification of England by a reference to that coast. If these deposits had all been thrown hurriedly together, if they had been brought by one tremendous torrent-flood, they would have all been in disorder; but the fact, on the contrary, was, that they were all in order, layer after layer, strata after strata, of whatever size or thickness. The numbers of years could be counted upon the stems of the trees which were found in the coal formation, and in some cases they constituted a vast number: but even this was no proof; the forest in which they grew might have occupied a thousand times the time which was counted upon them. This case, he said again, had nothing to do with theories. Let them go to the book of nature for instruction: let them go to that book which we could all read and understand, and in which we all believed, and they would see, as far as could be seen by Revelation, a variety of evidence, all tending to establish the great and broad fact, that these remains were of far greater antiquity than the reverend gentleman was willing to assign to them.

The chairman said, he had not interrupted Professor Sedgwick in his remarks, because he knew that, whilst speaking them, he was speaking the sentiments of almost every geologist in the room; but he trusted that any future remark would be as short as possible.

The Rev. Mr. Young said he knew that his opinions were not popular, like those of the learned gentleman who spoke last; but he had conscientiously formed those opinions from a careful examination of the strata, and the organic remains themselves; and he begged to say, that the marks which were satisfactory to one were frequently not so to another.

Professor Buckland then said he rose with great pleasure to speak, for the first time, on a subject which was of the very utmost importance to this district. He had, in common with many others, lamented the loss of the thousands and hundreds of thousands of tons of small coals which were annually burnt to waste in the "heaps" so well known in this part of the country. He was happy to find that a note in his "Bridgewater Treatise" had called

attention to the subject, and an individual had found a remedy for it. That individual had devised a plan for uniting the particles of these small coals in moulds; and he had sent him (Dr. B.) specimens of the prepared fuel, which he had burned, side by side, in the same grate with the best Newcastle coal, and he found the light and heat to be the same; and it was highly gratifying to him to know, that the time was at hand when all this waste would be put an end to. Dr. B. shewed some specimens of the prepared coal, which only costs, in preparation, 2*s*. 6*d*. per chaldron; and then gave the following account of trials in Woolwich dock-yard, by Mr. Oram, the patentee, under the inspection of P. Ewart, Esq.:—July 24, worked a ten-horse pumping engine six hours and forty-five minutes, at forty-two elevation per minute, discharging 30 cwt. of water per minute, with the prepared fuel, and consumed 750 lbs.—July 25, worked the same engine the same time, with Wylam Main coal, and consumed 1126 lbs.—July 26, worked the same engine the same time, with all large Llangennoch coal, and consumed 1046 lbs.—July 27, worked the same engine the same time, with Pontop coal fresh out of the ship, and consumed 938 lbs.—July 28, worked the same engine the same time, with a prepared fuel, consisting of one-third of small coal, a third of anthracite, and a third of coke, and consumed 660 lbs. This was a discovery, Professor Buckland said, of the utmost importance in this part of the country, where steam fuel was so much in request, and which was every day increasing. The prepared fuel was not deteriorated by the voyage to India, as some of the coal now used was.

Professor Sedgwick produced a paper drawn up by Mr. Warton, of Dryburn, tending to shew that, in all the great collieries in the neighbourhood, there was not near the amount of loss in small coal which was generally supposed. In Hetton Colliery, after the screened coals were sent to market, no less than 3445 tons of small coal were consumed by the engine fires; and, in fact, the loss was nothing but the mere dust, which was liable to be blown away. The loss was nearly equally light to the other collieries.

Mr. Carne inquired if the small coal was not sold at so low a price as to render the project of Mr. Oram very valuable?

Mr. Buddle said, every thing which could tend to economise the consumption of coal must be looked upon as a boon to posterity. The extent of the very finest coal for family use did not exceed an area of eight or ten superficial miles; and that which is usually called the best coal does not exceed thirty superficial miles—that was the Tyne High Main Seam. After noticing the exhaustion of the coal-field in the district, which, though slow, was extremely sure, Mr. Buddle proceeded to remark that there were two ways of telling a story; and he was rather surprised that the gentleman who drew up the paper had not taken notice of the immense quantity of small coals which was buried below in the mine, and never saw the light of day, but which were equally a loss with those which were burnt on the surface. He could not but consider the application of Mr. Oram as one of national importance, especially when we looked at the great and increasing demand for steam fuel.

A paper by Mr. Fox, of Cornwall, was then read, to illustrate the origin of metallic veins by electrical action. Mr. F. had succeeded, by experiments, in forming a mineral vein by voltaic power; and he thought that the mineral veins found in rocks had been produced by the same agency in the hands of nature.

Our readers are acquainted with all the particulars from our report of the Liverpool meeting; and that every additional observation which comes from Mr. Fox is most worthy of attention.

Mr. Milne then read a long paper 'On the Coal-field of Berwick and North Durham,' illustrated by finely coloured drawings of the strata. He commenced by giving the extent and geographical boundaries of the coal-field, and describing the various kinds of rocks of which it was composed, their form, position, and character. He then described the various seams, their heights, and quality, known by the name of the Lickar coal. He also exhibited a chart or table of the seams, their heights, thicknesses, and distances from each other. The extent of the field was about fifteen miles in diameter, the coal of a uniform thickness, and had a sameness in its component parts. Mr. Milne concluded by giving a graphic account of the strata of the immediate districts, their vegetable and animal remains, &c.

Mr. Buddle complimented Mr. Milne on the able character of his paper, as affording very interesting information to the geologist on the state and position of the coal-field of North Durham.

Professor Buckland also congratulated Mr. Milne, and expressed a hope that it would not be long before the paper, together with its beautiful illustrations, would be committed to the press, and, through that medium, to the public. It was a cheering circumstance, Dr. B. observed, for the people in this neighbourhood to have such a coal-field to fall back upon in the event of the exhaustion of the Newcastle coal-field; and he was informed that the consumption this year exceeded, by some hundreds of tons, that of last year.

The chairman then adjourned till Saturday morning, at ten o'clock; the Friday being, as agreed upon, given up to the Geographers.

SECTION D.—*Zoology and Botany.*

Dr. Granville, in the chair, observed, that he had that day to introduce to them a justly celebrated gentleman from Germany, Professor Ehrenberg, who had made some remarkable discoveries in his particular study of animals, which would form quite a new era in the knowledge of animal structure.

Professor Ehrenberg was received with much applause, and proceeded with giving an explanation of the results of his experiments on Bergmehl, or mountain-meal, and on the internal formation of polygastric infusoria; accounts of which are familiar to readers of philosophical transactions, and their popular followers in the periodical press.

A short paper was read 'On the British Shrews,' by the Rev. L. Jennyns, F.L.S.; and another, 'Observations on the Boring of Pholades,' by Mr. John Edw. Gray. The author of this latter paper attempted to shew, that, as there was much diversity of opinion on this subject, he had been induced to make a few observations on it. Some held that the action of boring was chemical, and others, mechanical; and it did at one time appear to him, that the evidence was nearly equal on both sides: but on leaving the meeting of the Association last year he went to Brighton, and examined a species in a chalk rock; and he was now led to the conclusion, from the particular appearance then presented, that there was considerable mechanical action in the boring of these animals.

A discussion then ensued, when various opinions were given; but the major part of which seemed to incline to the belief that the mechanical action was the strongest.

The president, in announcing the following paper, called the especial notice of the Section to it, as being one of much importance: 'Scottish Salmonidæ,' by Sir William Jardine, Bart. This paper, which was one of considerable length, and ably drawn up, was accompanied by numerous fine specimens of the salmon, of different sizes, preserved by Dr. Parnell, and excited much interest. It commenced with a brief description of the salmon of Scotland, with their several points of habit, geographical distribution, breeding, and economy. Nothing new or decisive was elicited; and, from one end of Scotland to the other, the opinions and theories remain quite as various and opposite on the subject as ever.

Mr. Yarrell complimented the hon. baronet on the labour he had bestowed upon the subject, and observed that, with respect to food (it being maintained by some, that salmon do not feed in the sea), he had taken great pains to ascertain what salmon fed on; but only in one or two instances, out of hundreds, had he ever been able to find any food in their stomach. He thought the reason of this was, that the moment the salmon were taken in the net, fear acted upon them so strongly, that they ejected what food they had; or else it arose from their peculiar rapid digestion.

The thanks of the Section were voted to Sir William Jardine, Bart., for the great labour and pains he had bestowed upon the Scottish Salmonidæ, and for the lucid manner in which he had brought it forward.

The next paper was 'On the Toes of the African Ostrich,' by Mr. Thomas Allis. The author in this paper attempted to shew that the ostrich had not a third rudimentary toe, as stated by Dr. Riley at the last meeting of the Association. The author had possessed two ostriches, and a third he obtained a fortnight ago, not one of which, on careful examination, was found to possess any more than two.

W. C. Trevelyan, Esq. exhibited a living specimen of the *Coluber matrix* of Italian naturalists. Also, a collection of insects, in spirits, from Naples; a specimen of rare *Polyodon folium*, from North America; and a specimen of *Urtica*, from Elba.

The last paper was 'On the *Tetrao Rakkelhan*,' by Dr. Charlton, with an exhibition of the blackcock, by Mr. Adamson, which went to shew that this bird, which had been put forward as a species by Temminck, was, in reality, nothing but a hybrid between the hen capercailzie and blackcock. The author supported this theory by quotations from Sparman, Bechstein, and Nillson, who all maintained it to be a hybrid. He also asserted, that as the hybrid and the capercailzie had formerly existed in Scotland, it was a singular circumstance that both should have disappeared together, while the blackcock remained in abundance.

SECTION E.—*Medical Science.*
Dr. Yelloley in the Chair.

The chairman said, the attention of the committee had been directed to two or three matters, one of which was the mode in which their communications were laid before the public, and the little justice that was done them. In all the public notices that appeared, less justice was done to them than to other sections, and that was but little encouragement to gentlemen who devoted so much of their time in the preparation of papers. As only brief accounts of the papers appeared in their books, or in the

published books of the Association, the committee felt that it would be a great public advantage, and, at the same time, gratifying to the feelings of authors, if the Royal Society of London would insert the papers in their publication. On the motion of Mr. Greenhow, seconded by Dr. Granville, a committee was appointed on the subject; but it may safely be predicted that the Royal Society will do no such thing.

Dr. R. D. Thomson said, a recommendation had been sent from the Committee of the Chemical Section, requesting a grant of 200*l.* from the funds of the Association for the purpose of bringing to England from Boston, in America, the person mentioned in Dr. Bowman's late work, for the purpose of making experiments on digestion; he having a wound by which the stomach was at all times exposed. He moved that a request be also sent from this Section, which was agreed to. [We have already noticed this matter, and the result.]

Dr. Granville made a verbal communication to the Medical Section, explaining a very important modification he has made in the stethoscope, by which many of the inconveniencies so much felt by the profession in using that instrument as a delicate test in diseases of the chest, are completely removed. The modification consists in rendering the instrument flexible without impairing its acoustic qualities, and was considered by the Section as a valuable improvement.

At the Medical Section on Thursday, 23d, a paper was read by Dr. G. O. Rees, 'On the Chemical Nature of the Liquor Amnii.' The author related the analysis of four specimens, all of which had been obtained at seven and a half months of utero-gestation, their specific gravity varied from 1007 to 1008·6. Urea was proved to exist in each specimen. The curdy matter found floating in the liquors was shewn by the author to consist of caseous matter, and cholesterine.

This was the only paper on animal chemistry read at the meeting of the Association.

Mr. Baird said he thought it likely that the practical result of an operation was a very fit subject to be shewn to the Section. It was the alteration of the elbow joint. It was too much the practice of surgeons to amputate the arm under such circumstances; and when cures had been effected, it was difficult to get living specimens, as the parties generally got into the country to their homes. This person was a poor man, with a large family, employed at Cookson's glass-works, and as he would have been unable to have followed his employment if he had lost his arm, he was anxious to do all he could for him. His name was Stewart, and he was brought to the Newcastle Infirmary in 1834, in consequence of having his arm lacerated by falling when carrying a large plate of glass, with three others. The man was called in and examined by the Section, who warmly congratulated Mr. Baird on his successful operation.

Dr. R. D. Thomson read a paper 'On the Modus Operandi of the Nitrate of Silver, as a Caustic and Therapeutic Agent.' All medical men were sufficiently acquainted with the nitrate of silver; and the common language was, when there was an excrescence on the person, to say that it had been destroyed by caustic. It could not destroy, it only changed the condition. The doctor entered, at some length, into a description of the manner in which it acted.

The last matter brought under the notice of the Section was a sling fracture-bed, the invention of Mr. T. M. Greenhow. Dr. Sargent, Dr. Inglis, Mr. Morison, Mr. Thorbeck, and Mr. John Fife, generally admitted that the invention was a simple and decided improvement. A model of it was exhibited in the Model Room, and it appeared to us to offer great facilities for moving the patient, dressing wounds, &c. &c.

SECTION F.—*Statistics.*

Mr. Heywood read the following letter, which accompanied the report therein alluded to:—"The Rev. Dr. Potter, of the United States, takes the liberty of transmitting to the Secretary of the Statistical Section of the British Association the last Annual Report of the Regents of the University of the State of New York. Having been present yesterday a few moments while the subject of popular education was under discussion, and happening to have this document in his possession, he has ventured to offer it as a contribution to the archives of the society. The information which it embodies does not refer immediately to popular education, the higher schools and colleges being the only institutions immediately under the supervision of the regents. The report, however, may serve to give some idea of the manner in which the higher seminaries of learning are conducted—by what means they are confederated, so as to form one system—what measures are taken to secure the proper discharge of their duties—and the nature and amount of the patronage extended to them by the state. The report also contains some information respecting the efforts which are now making, not only in the state of New York, but in many, or, indeed, in most of the other states, to improve the character and qualification of common school-teachers. In respect to the common schools, the Secretary is doubtless aware, that in nearly all the states they are placed by law under the immediate supervision of the government, and that a large proportion of the expense of maintaining them is discharged by the state treasury. In the state of New York, by means of this system, more than nine-tenths of all the children, between the ages of five and fifteen, are brought into school, and taught the first elements of knowledge. It must be acknowledged, however, that, owing in part to the deficient qualification of the teacher, and still more to the indifference of parents, the education imparted in many of these schools is exceedingly imperfect. Of this there is a growing conviction among the people; and this conviction has led to various measures for improving the constitution of our common schools. Among these may be mentioned the establishment of newspapers devoted to the interests of education; the formation of societies to improve the character of school-books, the construction of school-houses, and the qualifications of teachers; and also the exercise on the part of the state, of greater care in organising, and greater liberality in supporting the schools. In the state of New York, about one million pounds have been recently appropriated by the legislature to advance the interests of education. Of this sum, seventy-five thousand pounds are set apart for the purpose of placing, in every school-district of the state, a small library of useful and popular books, which may circulate among the families of the district. In general it may be remarked, that there is at present hardly any topic which, in the United States, excites so general and lively an interest as that of education. There is a growing conviction, that every thing valuable, in possession or in prospect, depends upon the intelligence and virtue of the people, and that no pains or expense should be spared to secure for them the blessing of a more thorough education. It may also be mentioned as an encouraging fact, that the indispensable necessity of continuing moral and intellectual training is now generally recognised. All our experience teaches us, that the diminution of crime, and the general improvement of the people, is in direct proportion to the extent with which moral and religious instruction are combined with that which may be termed secular. Hence the remarkable fact, that in several penitentiaries, where an examination has been instituted, no inmate has been found, or at most but one or two, who had previously enjoyed the benefit of a thorough Sunday-school course. This is attributed, not merely to the fact that religion is taught in Sunday schools; but to the fact that, instead of being content, like too many common schools, with teaching children to read, they aim at instilling into the mind the great principles of truth and duty; and of so instilling them, that they shall ever afterwards be reverted to with pleasure and gratitude. Apologising for this intrusion of a stranger upon the notice of the Section, Dr. P. begs leave to express his best wishes for the success of the British Association in all its great and laudable objects.

"*Commercial Hotel, Aug.* 22, 1836."

Mr. Rawson read an abstract which he had prepared 'Of the Second Report of the Railway Commissioners for Ireland;' and Mr. Griffith exhibited several maps, &c. in illustration of the report. Ireland, it appeared, possessed peculiar advantages for the cheap and facile construction of great national lines of railway, but that for some time the profit could not be expected to exceed from three and a half to four per cent on the capital invested. The commissioners, however, strongly represented the great mining and commercial capabilities of the country, and advised the construction of certain lines of railway, pointing out various ways in which the funds might be raised. One of the maps shewn by Mr. Griffiths was of peculiar interest,—a new *geological* map of Ireland—which, he observed, was the only accurate map of the country in existence of any kind.

Mr. W. L. Wharton read a statistical table of nine principal collieries in the county of Durham, viz. Manor Wallsend, Monkwearmouth, Newbottle, Littletown, Hetton, South Hetton, Haswell, Thornley, and Blackboy; giving details of the strata, principal pumping and winding engines, ventilation, screens, amount of sales, and the earnings, habitations, education, &c. of the pitmen.

Sir Charles Lemon observed, that the pitmen of the north, as he learned from this table, continued at their employment until they were seventy years of age. In Cornwall they seldom were able to work after sixty. To what was this disparity attributable? He was inclined to think that it proceeded—in some degree, at least—from the different mode in which the men were brought out of the pits. In the north they were drawn up, in Cornwall they ascended by means of ladders, and the labour of the ascent tended to produce diseases of the chest.

Mr. Thomas B. Wilson brought before the Section 'An Account of an Accident Club at Darton Collieries, near Barnsley, Yorkshire.' Sick clubs were common, but not such clubs as the one in question, as it was generally considered that to establish and maintain a society for insurance against accidents, was impracticable. The club was established in February 1833, and the accounts were kept by the employers, who deducted the weekly payments from the pitmen's wages. A member not earning more than 7*s.* per week, paid 6*d.* on

entrance, and a halfpenny per week afterwards, receiving 3*s.* 6*d.* per week when laid up by accident. Men earning more than 7*s.* paid 1*s.* on entrance, and a penny per week, receiving 7*s.* per week in times of accident. It was thought that the weekly payments would be too small, but the workmen were unwilling to pay more, and it had been found quite sufficient. The following was an abstract of the society's books:—

Year.	Average No. of Members.	Number of Accidents.	Receipts. £. s. d.	Payments. £. s. d.
1833	107	5	24 7 11	7 14 0
1834	158	33	41 9 2½	24 14 0
1835	202	52	47 3 3	40 7 4
1836	224	45	52 8 1	51 9 6
1837	245	53	56 12 8	72 16 0
1838	277	22	36 17 7	11 2 0
	1213	210	£258 18 8½	£208 2 10

Three of the accidents proved fatal; and one of the recipients of relief drew from the fund 4*l.* 16*s.* In 1836 and 1837 the club was a losing one. A new pit had been opened, the roof being tender, there were several accidents; but the men had become used to the pit, and more careful, and perhaps the roof had got better. The funds were now augmenting; and the heavy demands which it had been able to sustain was a proof of its utility. A free-gift club, in which the pitmen raised a subscription when an accident occurred, could never have contributed 124*l.* in two years. Since July 1, 1836, ninety-six accidents had occurred, and from the following causes:—From the falling of the roof, 25; from the falling of coals, 20; hurts from the corves, 19; falls, 6; wounds from tools, 7; from various substances falling, 8; and from fire-damp, 11. Many of the accidents were slight, and did not detain the sufferer from his work more than a week.

Mr. Felkin, of Nottingham, read a paper 'On the State of the Population in the Township of Hyde, in Cheshire.' The staple manufacture of the place was cotton-spinning; and a calculation, founded on a large portion of the inhabitants, gave an average of 6*s.* 10½*d.* per head, on the weekly earnings of a family. The aggregate wages of a family very commonly amounted to 100*l.* per year. Some earned from 200*l.* to 300*l.*; and in one instance, a family, who came under his observation, earned 400*l.* Pauperism was almost unknown in the township; in thirty-five years, there had only been three committals for felony; and illegitimate births were very rare. The masters and the workmen lived in mutual amity; and there was great freedom, without any marks of disrespect, in the bearing of the men towards the employers. The people were stout and healthy—inhabited commodious, comfortable, well-furnished houses—and had abundant and substantial diet. Almost every house was distinct and entire, and was supplied with water by means of pipes. In his visits to the work-people, he found every family possessed of books, religious and political; in many houses he met with musical instruments; in some, a pianoforte. Twice a-year the works were stopped for the space of eight days; and the workmen took the opportunity to make excursions to London, Liverpool, the Isle of Man, &c.; returning, more contented than before, to their comfortable homes. Unfortunately, drunkenness prevailed; but it was on the decrease. Several families, to use an expressive phrase, always lived "a week too fast;" and there were instances in which workmen had been in debt to their tradesmen thirty years.

Little discussion took place; and the proceedings of the day concluded.

SECTION G.—*Mechanics.*

Professor Willis described his instrument, the 'Odontograph;' also, the use of scales of measurement, invented by Mr. Holtzapffel.

Mr. Oliver Lang, of Woolwich, presented to the Section a model representing a part of a line-of-battle ship's bottom, shewing the method of attaching the keel, which may be dislodged by striking the ground, without endangering the safety of the ship; the base of the fabric being solid, substantial, and perfectly secure from water, even after the false keel, main keel, gripe, &c. are carried away. This system of building, he stated, has been practised in the navy, on men-of-war and steam-vessels, about twenty years with great success; and is now generally adopted in building all ships and vessels for the public service. A great number of men-of-war and steam-vessels have been already fitted on this plan, and, fortunately, several have been saved from shipwreck in consequence. One frigate, the Pique, has been preserved in a most surprising manner, having had the whole of her keels, gripe, and lower part of her bottom cut away by the rocks to a very great extent; notwithstanding, she was brought home safe through the great Western Ocean: had she been built on the common mode, the ship and crew would have been totally lost. The Lightning steam-vessel has had the misfortune to get on shore, and dislodge her keel four different times in the course of the last sixteen years, without the least injury to the fabric in any other part, not even disturbing her caulking, nor occasioning the smallest leak. This plan is applicable to ships and vessels of every description, and would be very beneficial to merchant vessels in securing and strengthening their bottoms, preventing leaks, and preserving many valuable lives and cargoes. To prove this, Mr. L. shewed two models descriptive of merchant ships: one shewing the mode generally practised; the other, which he recommended, from a long experience in ship-building, repairing, &c. He spoke from a knowledge of facts which had come under his notice in the course of the last war; and he had been induced to make it known in the hope that it might do good to the shipping interest of Newcastle. Mr. Lang said, he had also a tube scuttle, for the admission of light and air between decks of ships, which has been adopted in her majesty's navy about eight years since, and had given the greatest satisfaction; and a method for securing a round-head rudder at sea when required, with a few other improvements on ship concerns, but as the Section was pressed for time, he would not detain them by further explanation.

A paper 'On the Use of Wire Ropes in Deep Mines,' by Count Breunner, advocated the substitution of ropes made of twisted iron wire for the flat hempen ropes commonly in use.

The president announced, that the next subject which would be brought before the Section was on the modes of traversing the ocean by means of vessels propelled by steam; and he hoped that whatever difference of opinion might be found to exist, he would not have to witness a departure from the tone and temper which had characterised their previous discussions here. If any opinions had been expressed which subsequent experiments had shewn to be erroneous, the acknowledgment of that error was a triumph to knowledge. If he himself were to form an erroneous judgment, he was sure he would find it very difficult to get into the right path again, unless sustained and assisted by those around him. He felt grateful for the attention which the Section had paid to the subjects brought under their notice, and that was to him the greatest reward for, he would say, the labour of presiding over such a numerous and important scientific meeting.

Dr. Lardner then came forward and said:—No one could be more deeply impressed with the importance of the observations which had just fallen from the president of the Section than he was; and there was not any member of the Association more willing to admit the error into which he had fallen than he should be found to be. At the same time, he was sure that every one at all acquainted with the human mind, and with the motions and impulses which governed it, would see that an opinion so expressed, if an unpopular one, would be questioned, especially if any commercial project involving large interests were connected with it; and that it would be extremely liable to exaggeration. It was a matter of no real importance how far any opinion which he might have formerly expressed on extended steam navigation was right or wrong, except as far as it had been made a personal question. The subject of extended steam navigation was first broached at the Bristol meeting of the British Association, when a discussion arose upon it; and he then remarked, that it was a great experiment which had not yet been attended with any satisfactory result. Whatever he did say on that occasion had been very much perverted, and had assumed an entirely personal character. Unquestionably, he did express a discouraging or unfavourable opinion as far as regarded the probability of ever maintaining an unbroken intercouse by means of steam navigation between Great Britain and New York. Soon after that meeting, an article appeared in a quarterly periodical on steam navigation, which article contained a tolerably fair statement of what he had expressed at the Bristol meeting; and so far as that article may have turned out erroneous, he did most willingly acknowledge his error. He had been charged with declaring that the transit by steam navigation between Great Britain and New York was a physical impossibility. He never had given expression to such a statement, or to any thing equivalent to it; and any person who looked at the article in the "Edinburgh Review," the periodical to which he alluded, would see that he did not make such a statement, but one very different. In the course of the inquiry, it had been found necessary to produce a register of various circumstances connected with the state of the engine and the progress of the vessel; and the difficulty of procuring any individuals on board these vessels to execute this task, had led to the invention of what he had termed a "Self-recording Steam Journal." By this instrument, one of which was exhibited, he proposed to record for every five minutes of time—

1. The pressure of steam between the slides and the steam valve.
2. The pressure of the steam in the boiler.
3. The state of the vacuum in the condenser.
4. The part of the stroke at which the steam is cut off when it works expansively.
5. The quantity of water in the boilers.
6. The saltness of the water in the boilers.
7. The velocity of the paddle-wheels.
8. The draft of the vessel.
9. The trim of the vessel.
10. The rate of the vessel.
11. The course of the vessel.
12. The apparent force of the wind.
13. The apparent direction of the wind.

The above he proposed to register by self-acting mechanism, except the eleventh (the course of the vessel), the indicator of which would require occasional manipulation.

The principle and construction of the instrument he explained with much clearness, and was warmly applauded by the Section.

Mr. Russell then rose to make some observations on the present state of steam navigation. He had prepared a long written statement on the subject; but as the time which the Section could appropriate to the consideration of the matter was limited, he merely gave a summary of what he intended to have delivered. He observed, that in the present state of steam navigation, all improvements or extension must arise either from some new and unheard-of discovery, by which an entirely new era in steam navigation would be created, or from some combination of the means and facilities which were already in their power, but of which they had not yet fully availed themselves. The former supposition he deemed somewhat chimerical, and would, therefore, propose to seek for improvements in some combination of the facilities which they already possessed. In the present steam-vessels, improvements might be made in the construction either of the vessel itself, the machinery, the boiler, the paddle-wheels, or in the nature of the fuel. On the subject of these vessels, two opinions were known to exist among scientific men. One portion said that nothing could be gained by the construction of the vessel, but that all would be gained by power, whilst another portion maintained an opinion directly the reverse. With reference to this question, two great experiments had been made. Out of a vessel were taken two fifty horse-power engines, and in the room were put in two sixty horse-power engines. When the propelling power was two fifties, the velocity of the vessel was 10 miles and 3-10ths of a mile per hour. When it was two sixties, the velocity with which the vessel moved was 10 miles and 6-10ths of a mile per hour. Hence there was an increase of power, a greater expenditure of fuel, and the increase of the velocity was only three-tenths of a mile.

Mr. Vignoles.—And the immersion of the vessel the same?

Mr. Russell.—No; the immersion of the vessel was greater: but he meant to shew abstractly that the increased power applied did not increase the velocity in a corresponding ratio. An experiment was also made on two different vessels, one of 450 tons burden, and the other of 500 tons burden. The larger vessel was propelled by two engines amounting to 300 horse-power, and the smaller one by two amounting to 150 horse-power. The larger vessel, with the double power, proceeded at the rate of nine miles and a half an hour, whilst the smaller one moved at the rate of nine miles and a quarter an hour. This instance, he thought, extremely satisfactory; the smaller vessel had the proper form that a vessel should have, and the larger one had not. In what way, then, was improvement to be looked for? He had no doubt that, before ten years pass over our heads, we should see vessels constructed of double the length, in proportion to their breadth, that they now were. The influence of abstract size was of considerable importance. If a vessel were doubled, her capacity would be increased eightfold. Did her resistance increase in an eightfold proportion, or did it not? Mr. Russell then proceeded to shew, that by increasing the resistance twofold, an increased capacity of eightfold might be obtained in the vessel. As regarded the objection of practical men as to the probability of a ship "breaking her back" when made double the length, he observed, that when the diagonal principle of construction adopted in land architecture was carried out in the construction of vessels, and this was already done in forming the sides of her majesty's vessels, the danger to be apprehended from this cause would be entirely obviated.

The Section was then adjourned.

In the evening the general meeting took place in the Central Exchange, where reports (very brief) were made of the proceedings of the Sections to this day (Thursday) inclusive, by Sir John Herschel, Mr. Whewell, Mr. Lyell, Sir G. Back, Sir W. Jardine, Dr. Headlam, and Colonel Sykes.

There was also a ball at the Assembly Rooms, which was fashionably attended.

BOTANICAL SOCIETY.

FRIDAY, September 7th. C. Johnson, Esq., V.P., in the chair.—Donations of 5500 specimens of British plants, including 420 species, presented by the curator, D. Cooper, Esq., and of several British and foreign plants presented by the Botanical Society, were announced. Several members were elected. Read, a paper by Mr. Cooper, entitled, 'Observations on a New Principle of Fencing, constructed by Mr. Breeze, formed according to the Laws of Vegetable Physiology.' It consists of planting and growing trees or shoots of the same species, or species of the same genus, and causing them to unite by "grafting by approach, or inarching." Having been planted a foot apart, sloping in opposite directions, the bark should be removed from the stems where they cross each other, and the stems tied together. They will soon unite, and thus will be formed a natural living fence, acquiring additional strength every year. Read, also, a paper by Mr. Cooper, 'On a Variety of *Polygonum aviculare*.' This variety had been found on the Plumstead Marshes, and other places, by Mr. Cooper, and was considered by him well worthy a place in the "British Flora," as the var. *E.* of Hudson. The *Polygonum aviculare* was minutely described and contrasted with others of the same genus. Thanks were voted to Mr. Cooper.

FINE ARTS.

THE WELLINGTON STATUE.

THE following able letter, from the Marquess of Londonderry, appeared in the "Morning Post" of Tuesday, and we should have thought would have set this quarrel at rest: it has, however, been answered in the "Times;" but the correspondent of that paper seems to forget that the objections of the noblemen and gentlemen to the resolution of the 9th of June, are not directed personally against Mr. Wyatt, but against the appointment of an artist without that competition which, they are of opinion, would be beneficial to art.

"Wynyard Park, Sept. 6, 1838.

"My Lord,—As a member of the committee for carrying into effect the great object of the Wellington Memorial; as one of the twenty-six members of it who met on the 9th of June, and whose proceedings have been criticised in so unprecedented a manner; and, above all, as the individual of the meeting who proposed 'That Mr. Wyatt was eminently qualified to be intrusted with the execution of the proposed statue,' I feel myself impelled by a sense of duty to others, as well as to myself, to address you on your lordship's answer to the despatch from Park Place, of the 8th of August, signed by twenty-three noblemen and gentlemen, malcontents.

"As your lordship is in possession of all the previous correspondence that has taken place on this perplexing affair; and as the late address to your lordship neither canvasses its merits nor attempts to controvert the unanswerable letters and appeals of the Duke of Rutland, Mr. Croker, and others; and as the application now to your lordship professes to be brief, I shall endeavour to be so also. The case resolves itself into a narrow compass. Why did not those important absentee personages of the committee, who now object to the proceedings of the twenty-six on the 9th of June, attend in their place, and shew some interest in the business at that time? Why are the proceedings of twenty-six (of high rank, and, perhaps, of equal ability) to be set aside and stultified by that section of the committee who, by neglect or indifference, did not choose to attend? Why is an appeal now to be listened to from twenty-three against twenty-six, to overset arrangements regularly made, under properly convened meetings? What is to become of the proceedings already taken for months past? The orders issued? The measures the professional men (by the authority of the constituted committee) have adopted? Who becomes responsible for all those expenses incurred? Who is to make compensation to those who have been named and are now at work, and may be, under a new plan, set aside? These are no light considerations to weigh: and by whom is this confusion introduced? By a majority of the subscribers? No. By any portion of the subscribers not of the committee? No; but by a section of the chosen committee, who have abandoned their duty by not attending it, and seem only to shew their zeal in the cause by running down and turning into derision the zealous and indefatigable conduct of the noble chairman and those who have given this important subject their undivided attention. If blame there be, if the public are dissatisfied, the delinquents are enumerated in those who neglected the duties of the appointment to which they were named. But upon what grounds do the twenty-three noblemen and gentlemen urge their present application? I certainly heard it stated in London that some of these great personages expressed dissatisfaction that the members of the committee were invited to discuss ulterior measures; that this could not mean the choice of an architect, and, therefore, they did not attend. What! Is it to be believed for a moment, that the members of the committee, who never were present, supposed all their duty to consist in giving a vote of patronage alone? I treated this rumour with contempt, and scouted it as it deserved; and I am happy to observe in the present document the strongest opinion of discontent alleged by the applicants is the unusual shortness of the notice, the summons being dated on the 5th for a meeting on the 9th. Why, one really should imagine from this observation the members were to collect from the Land's End, whereas every individual was attending his duty in Parliament, a few doors from Harley Street, where the office was held; and yet four days is said to be an unusual short notice. But it might surely have given these gentlemen time to inquire into the very vague and general terms in which they say the object of the meeting was stated: if they had thought proper to do so, they would have then been informed. The only other statement brought before your lordship in the document is, 'that the correspondence excited great interest in the subscribers, and that the general opinion (as far as the general opinion can be gathered which is not expressed by any act) appeared to be strongly at variance with the resolutions of the committee of the 9th of June.' Unfortunately for the applicants to your lordship, I can quote them an act from which they

may gather an opinion, viz. above three thousand pounds more have been subscribed since the proceedings of the 9th of June, appointing the architect. This is the sum total of the logic brought forward to induce your lordship to suspend the consent of the government to any plan submitted for their approval until the whole question shall be considered at a full meeting of the committee, and, if necessary, at a general assembly of the subscribers. Now, my lord, I defy your lordship, or those noblemen and gentlemen who press this decision upon you (and which I lament to see you have adopted), to justify this course by any precedent, or by any shadow of justice or of fairness. Your lordship has already signified her majesty's gracious acquiescence to the committee of the 9th of June, through our chairman, for the equestrian statue to be placed on the arch in the Green Park, with the sole condition that the design should be approved by government. After such sanction to a regularly convened and constituted assembly, by what right can her majesty's government forfeit her declaration, and suspend their approval, on account of differences amongst a class of the committee or the subscribers? Arbitrary proceedings will not, cannot answer, for there is an innate sense of justice that the public will support.

May I ask your lordship how you imagine a full committee would now be obtained? If your lordship was one of the twenty-six of the 9th of June, after all that has passed, would you attend another call, purposely to try, in an unusual manner, to set your decision aside? I think your lordship would hardly be so tame: and if the party, whose cause your lordship now seems to espouse, were triumphant and passed new resolutions, the defeated twenty-six might appeal to a general meeting, at which assembly the partisans of the malcontents on the one side, and the twenty-six on the other, would augment the general discontent, and the vanquished would withdraw with their subscriptions from the contest under the considerations your lordship seems now establishing for them. I know not, whether from design or otherwise, but there seems to me a dormant, wilful inclination somewhere to plunge this business into chaos; and many of the well-disposed who are favourable to this mark of a nation's gratitude seem caught by the chaff that is so profusely distributed: otherwise, why was not the present appeal got up and the answer given sooner, before all parties had left town; or why is it under the seeming sanction of the government our proceedings of the 9th of June are to be ungenerously and designedly brought into observation and contempt? I own, my lord, I cannot express my indignation at the pitiful measures that have been resorted to under the direction (it is said) of the Board of Works, by placing caricature wooden figures at the top of the arch to prejudice beforehand the public mind unfairly against the project and design, and against the architect, who had no cognisance of such mean measures. Surely, my lord, your lordship and the chancellor of the exchequer, becoming in any measure acting parties in this proceeding (further than giving or refusing her majesty's consent to the design), is entirely out of your province; and, be assured, it will induce the subscribers, and public at large, to believe there is more party in these various separate cabals that have taken place than meets the eye.

"And now, my lord, one short word more as to myself and the duty I have endeavoured to perform. I am aware how humble my portion is; but, in justice, in right, according to all precedent, neither you nor those who address you can annul the proceedings that have been legitimately carried into effect. I formally protest against this unprecedented attempt of might over right. I call upon the twenty-six members of the committee of the 9th of June, to stand by our acts.

"I call upon them not to yield, or to be put down by those who did not attend to their duty (as we did), and who are aiming, by every artful measure, to set our legitimate acts aside.

"I call upon them to uphold their noble chairman in his acts, and in the course he has adopted, supported by their unanimous concurrence.

"I call upon them to remember that deeply interesting and affecting meeting where the properly convened committee and their chairman waited on the Duke of Wellington, and officially laid before him their labours, and introduced to him the architect.

"And I call upon them, lastly, to enter a solemn protest before the subscribers and the public at large, if it shall be determined to persevere in the attempt now made to discard them from the duties they have endeavoured hitherto, zealously and honourably, to execute, at the instigation of those who, by non-attendance and neglect, have engendered all this mass of public discontent and confusion.

"I have only to add, my lord, that I shall give this letter publicity, as well as any reply with which you think proper to honour me.

"I have the honour to be your very obedient servant, VANE LONDONDERRY.

"To the Viscount Melbourne, &c. &c. &c."

MEDALLIC HONOURS.

WE have been favoured with the sight of a set of medals, struck in honour of the present pope, and in commemoration of his care in the preservation of ancient Roman remains. They are five in number, and all bear the portrait of the pope at different periods of life. On the obverse of three of them, are representations of the edifices which he has been the means of preserving; and on the remaining two, is a figure of the genius of Rome—represented in one instance as inspired with the love of art; and in the other, surrounded by ancient remains. These medals are executed in a very high style of art. They were presented by the pope to Mr. W. Linton, in return for an engraving from his picture of Jerusalem: and the compliment must be very gratifying to the feelings of this distinguished artist.

NEW PUBLICATIONS.

Sketches on the Danube, in Hungary and Transylvania. By George Hering. Imperial folio. M'Lean.

To say that this was the apex of the pyramid might be going too far, but, that it as nearly so as any work of the same class that has recently come under our notice is no more than true. In originality, picturesque character, and variety, nothing can surpass it; and we are indebted to Mr. Hering for making us pictorially acquainted with the wild and romantic of regions hitherto only known to us by description. Each of the views is accompanied by a lively sketch,—rather a novelty, and, we venture to think, improvement, in this kind of publication: nor is this the only novel feature; another, and it is one deserving all praise, is the introduction of peasantry, male and female, in their national costumes. Altogether, we think this is a most delightful work, either for the drawing-room or boudoir.

We shall allow the literary portion of the work to speak for itself. The following account accompanies Plate XII., "Trentschin—Valley of the Waag."

"Of all the wild scenes, of all the wild legends, which the gray walls of old Trentschin have known in the days of their glory, none pleased me so much as the tale of the 'Lovers' Well.' It was in the reign of the weak Wladislaus the Pole, when Hungary was sorely pressed by the infidel Turks, that Stephan Zápolya, the lord of Trentschin, was chosen palatine of the kingdom, and intrusted with its defence. As he had nearly finished the new works by which he hoped to make his favourite castle safe against the Bohemians and Poles, who continually threatened him on this side, he became suddenly sad, when he thought that water was still wanting to make Trentschin irresistible. Just then, a Turkish merchant was announced, who had come to treat with him for the ransom of some prisoners, especially one young girl, now a favourite attendant on his wife, who had fallen into his hands during the last campaign. Troubled by the intreaties of the Turk, the palatine rudely refused to treat for Fatima; and swore he should never see her free till he could bring water from that rock. Zápolya knew not that he spoke to a lover. From that moment the disguised merchant, aided by all the captives, set to work, and after three years' labour at the solid stone, arrived at water! Joy reigned that day in Trentschin; the long-separated bride was richly endowed, and blessed the perseverance of her Omar; the captives were set free, and the proud palatine saw his favourite castle as secure as the work of man's hands could make it."

Buonaparte at Waterloo. Painted by Steuben, and Engraved in Mezzotint by Mrs. W. H. Simmons. M'Lean.

THE artist has given great interest to this picture, by the spirit of the representation, correctness of detail, and the likenesses of the portraits; he has been ably seconded by Mrs. Simmons, who has produced a very fine mezzotint engraving, which is in excellent keeping with the picture.

Rudiments of Curvilinear Design. By George Phillips. Shaw and Son.

As an auxiliary to the recently established schools of the ornamental and decorative, this work will be found useful in directing the attention of students to such examples. The four plates illustrate the Cinque Cento, the Elizabethan and the Gothic. In furtherance of his views, the author endeavours to inculcate the necessity of engrafting the principles of good taste on the power of invention; and has, accordingly, given his own definitions of beauty and sublimity; supported by the authorities of Alison, Burke, Hogarth, Reynolds, &c. We should think the present time favourable to a work of this kind, as a taste for the ornamental and decorative is prevalent.

ORIGINAL POETRY.

LINES,

Suggested by a young Lady's Singing.

WOULD that strain might flow for ever
(Like some gently murmuring river),
Nearer now and nearer swelling,—
Now, like echo, far retreating,
While it's own soft voice repeating,—
Now at mimic distance dwelling.

Fast the spell is rushing o'er me,
Present things are dim before me:—
Welcome, sweet illusive madness,
Quickening every pulse of feeling,
Bygone smiles and tears revealing,
Mingling dreams of joy and sadness.

Now I gaze on absent faces;
Now am lock'd in past embraces;
Soaring now on fancy's pinion,
Meet the parent lost so early,—
Priz'd so truly,—lov'd so dearly,—
Won from death's obscure dominion.

Hark! like evening zephyr sighing,
Now those dulcet tones are dying—
Silence reigns. (Erst, brightly beaming,
Nature thus in gloom reposes
When still Night her curtain closes.)
Silence reigns. Adieu, my dreaming!

T. D. E.

DRAMA.

Haymarket.—On Wednesday we greeted an old friend under a new name. *The Schoolmaster Abroad*, embellished and improved, and called *Tom Noddy's Secret*, was acted, for the first time at this house, on that evening. The plot and situations are absurd and farcical, and the dialogue easy and natural. Hemming, Strickland, Buckstone, Miss Taylor, and Miss Cooper, all exerted themselves to the utmost, and were rewarded by peals of laughter during the progress, and tumultuous applause at the termination of the farce, from all parts of the house. Indeed, the whole affair is so perfectly ludicrous that even gravity itself is forced to hold its sides.

English Opera.—On Monday, a new domestic drama, called *Self-Accusation*, was produced here. The plot is somewhat hackneyed;—a murder committed, and an innocent man accused of the deed. To the clever acting of Mr. Compton, Miss Poole, and Mr. M'Ian (that of the latter, perhaps, rather overdone), the little piece is mainly indebted for its success. Miss L. Melville, a ladylike and modest young actress, plays the heroine—a part beyond her powers, and quite unsuited to her moderate abilities. The scenery is pretty.

Strand.—*Page* 21, *or the Great Cigar.* Oh, fie!

VARIETIES.

Vauxhall.—The Nassau balloon has been making some interesting experimental trips, in one of which it reached an altitude of above five miles. Violent snow-storms were encountered at about a mile and a mile and a half from the earth, and the cold was intense, the thermometer having sunk to twenty-seven degrees below the freezing point.

Model of the Battle of Waterloo.—We see that Lieut. Siborn, the assistant military secretary for Ireland, is employed in erecting his beautiful model of the battle of Waterloo at the Egyptian Hall: when completed, it will amply repay the visits of the curious.

Hood's Own, No. VIII.—We feel sorry for the announcement, that ill health has prevented Mr. Hood continuing his pleasant reminiscences in this Number: a double portion is, however, promised for the next, to which we shall look forward with pleasure, merely premising that there is ample fun in No. VIII.

Wilson's Tales of the Borders, No. I., contains several pleasant tales, and keeps up its character for light and amusing articles.

Singular Mode of Trial.—Mr. Swinhoe, an attorney, having been robbed, his servants were put to the ordeal of eating parched rice. Of the five suspected persons who attempted to eat the rice, two only could do so; the remaining three, either from guilt, or fear, or other unaccountable cause, could not, in spite of all their efforts, contrive to swallow the stuff. They were, consequently, suspected to be the thieves.—*Parbury's Oriental Herald.*

Wesleyan Missionaries at Mysore.—The missionaries, a valuable body scattered abroad throughout an extensive province, and devoting their time entirely to their sacred duties, are, we rejoice to hear, rapidly spreading the blessings of education amongst the people. Every assistance is afforded them by the British authorities.—*Idem.*

New Society.—A society is about to be established in Calcutta, under the name of "The Society for the Acquisition of General Knowledge." The projectors of it are certain native gentlemen, famous for their extensive knowledge of English; and of unexceptionable character in every other respect.—*Idem.*

LITERARY NOVELTIES.

LIST OF NEW BOOKS.

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METEOROLOGICAL JOURNAL, 1838.

September.	*Thermometer.*	*Barometer.*
Thursday.. 6	From 55 to 64	29·28 .. 29·27
Friday 7	.... 56 .. 65	29·31 .. 29·35
Saturday .. 8	.... 50 .. 60	29·52 .. 29·85
Sunday.... 9	.... 38 .. 60	30·07 .. 30·10
Monday .. 10	.... 35 .. 61	30·26 .. 30·37
Tuesday .. 11	.... 34 .. 64	30·40 .. 30·44
Wednesday 12	.... 34 .. 63	30·32 .. 30·30

Winds, N. and S.W.

Generally clear, except the 6th and two following days, when rain fell; distant thunder, accompanied with rain on the afternoon of the 7th.

Rain fallen, ·275 of an inch.

Edmonton. CHARLES HENRY ADAMS.

Extracts from a Meteorological Register kept at High Wycombe, Bucks, by a Member of the Meteorological Society. August 1838.

Thermometer—Highest	72·50	the 11th & 27th.
Lowest	37·75	24th.
Mean	57·35685	
Barometer—Highest	29·90	9th 14th & 18th.
Lowest	28·93	22d.
Mean	29·65600	

Number of days of rain, 11.

Quantity of rain in inches and decimals, 1·35.

Winds.—2 North-East—0 East—0 South-East—3 South—12 South-West—4 West—9 North-West—1 North.

General Observations.—The month was warmer than in the last two years, although the range of the thermometer was less, and the maximum was below any one, in the same month, during the last fifteen years. The quantity of rain was less than in August 1836, or in August 1837, and the barometer was lower than in the last three years, in the corresponding month. Thunder was heard once at half-past ten, A.M. on the 23d; and on the 28th lightning was seen for some hours in the north and north-west, but very distant.

TO CORRESPONDENTS.

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28th August, 1838.

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